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THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. II.—5TH YEAR. SYDNEY: SATURDAY, DECEMBER 7, 1918. No. 23.

ASTHMA, FROM THE POINT OF VIEW OF THE RHINOLOGIST.[1]

By **R. Graham Brown, M.R.C.S. (Eng.), L.R.C.P. (Lond.),**
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The nose and throat surgeon, in the course of his practice, deals frequently with asthmatic subjects; this shall be my excuse for entering into this evening's discussion.

We will all agree, perhaps, that asthmatic cases have one thing in common, *i.e.*, that this symptom (for asthma must be considered as a symptom only) is grafted on to an already existing diseased state, which, in the majority of cases, is nervous. In other words, in cases of so-called bronchial, spasmodic or nervous asthma, which surely constitute a large majority of these asthma cases, we recognize that there is always a neuropathic basis, and that the addition to this of numerous and varied exciting conditions is responsible for the symptom in question. We must recognize, therefore, before defining any treatment or treatments for this symptom, that asthma is but a manifestation of a nervous, pathological or psychical condition.

Berkart maintains that asthmatics grow up in an atmosphere of "asthma." One has only to recall the number of chronic cough cases occurring in children, and the parents' repeated reference to such cases as asthma, to realize that there is much truth in the statement. Berkart further writes: "They suffer from a traumatic insult, which in time is converted into a psychic trauma; and every functional disturbance, however slight, is apt to react adversely upon respiration." The number of cases of this kind with which one meets is certainly surprising; and, therefore, the most rational course might seem an attempt to control the condition in its early stages. Abolish those early chronic coughs. Were thorough treatment thus carried out in the child, we would surely be doing more good to the race than can be attained by attempting cures in the adult.

I say attempting cures, for we must admit that real cures are not numerous. The nose specialist considers that he cures a lot of these cases; and perhaps he has a larger proportion of successes than the general practitioner. It rests with the latter gentleman, however, to say how many return to him from the former as failures. We all know how readily an asthmatic passes on to new doctors and new treatments in his search for his specific remedy; the rhinologist, it may be, is apt to consider a number of these cases as "cures." We have all had our "cures," and we are not backward in reporting them. Being human, we recall each other's failures, and try to forget our own. But the fact stands that any one of us can pronounce a certain cure for this condition need hardly be discussed.

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on September 5, 1918.

Varied, in truth, are the remedies which have proved successful in certain cases. In this one, "fanning with a feather at a distance," has been reported as wholly efficacious; in another case, painting the bronchial mucous membrane, under an anæsthetic, with various substances *viâ* the bronchoscope has been successful; in yet another, the injection of some enzyme into the circulation, in the hope of combating some anaphylatic condition, had secured the desired result. The list of drugs which in turn are claimed as the best for treatment of the condition in question is surprising. What, then, must we deduce from this? That there is no one and certain remedy for all cases. And, indeed, remembering that the exciting causes of the attacks are so varied, this is a natural conclusion. These causes range from mere mental instability to the most advanced pathological change of some organ, the heart, perhaps, the skin, nose, etc. Asthmatics have been permanently relieved by the simple removal of an external pile, by the lowering of the blood-pressure, by the correction of an error of refraction, by the removal of some trifling mental worry or peripheral irritation, or by an elaborate operation upon the nose or accessory sinuses.

If I have gone into this aspect of the question at some length, it is because I wish to emphasize the necessity of some sort of grouping of these cases, in order, by correct diagnosis and subsequent correct treatment, to be able to deal efficiently with them. The haphazard cauterization of the nasal mucous membrane in the hope of producing benefit in a case of asthma, if this be secondary to aortic aneurysm, must be condemned. And why compel a man to leave his employment and seek other climes when his asthma is secondary to such a condition as pressure in the mid-turbinate region, through some cystic enlargement of that bone? It, therefore, behoves us, if possible, to find the causative factor of the attack and deal with it, considering this for the time being as of primary importance. Cases could be grouped as the exciting cause occurs within the province of the several special branches of medicine.

With this end in view, and for my own convenience, I have worked out the following grouping of the cases which have come into my specialty as nose and throat surgeon. Seeing that it has helped me not a little, I venture to detail it in the hope that it may be of some value to others in the treatment of these cases.

I first divide my cases into:—

(1) Those in which definite pulmonary signs exist.

(2) Those in which there is nothing more than a transient obstacle to respiration in the bronchial tree, with scanty secretion or none.

In the first group we generally find well-marked pulmonary disease; there is abundant sputum, in which spirals, crystals, and sometimes tubercle bacilli are present; the patient is in a debilitated condition.

This first group may be sub-divided into:—

Sub-group 1.—Cases with no nasal deformity nor disease of the accessory sinuses.

Sub-group 2.—Cases with one or both of the above conditions present.

Of the former I will say nothing, except that I do not consider them as coming within the scope of the rhinologist. Concerning the latter sub-group, I have observed that the patient who comes under it, is generally in a debilitated condition, with a low blood-pressure, that the prognosis in his case is frequently good, and that the relief follows immediately upon the operation to correct the nasal fault. The permanence of the relief depends upon the thorough removal and non-recurrence of the pathological condition. The nasal conditions frequently met with are gross deformities of the septum nasi, hypertrophied middle turbinates (generally cystoid enlargement of the bones), diseases of the ethmoid and sphenoidal air cells, and empyema of the antrum of Highmore.

It would be inadvisable to leave this sub-group without mentioning the necessity of excluding other causative factors. The following two cases will serve to illustrate this.

The first case came under my notice while I was acting as House Surgeon to a leading London rhinologist. A man of middle age presented himself for treatment of a well-marked asthma. He had been referred to the rhinologist by the physician, who could find no chest trouble to account for the condition. An empyema of the left antrum of Highmore was found, and the diagnosis of asthma secondary to antral suppuration was made. The patient was seriously ill; and it was decided as a preliminary only to open and drain the antrum *viâ* the nose, under local anæsthesia. That same evening I was called to attend to the patient. I found that he had suddenly expired from rupture of an aneurysm within the pericardial sac. (This was later demonstrated at the post mortem examination.)

The second case came under by notice while in partnership with Dr. Robertson, who referred it to me for my opinion. A debilitated man, of some 60 years, with a marked wheeze, had been under treatment for pulmonary tuberculosis for about eighteen months in a western district. On examining the chest suspicions of aneurysm of the aorta were found. An X-ray examination revealed a large aneursym of the ascending aorta. The patient died within fourteen days of the time the diagnosis was made. He had, so far as I can recollect, sufficient nasal deformity to suggest treatment in this direction.

Such occurrences as the above are in themselves sufficient reason to warrant a chest examination in all cases of asthma.

Let us proceed now to group 2. These constitute by far the largest percentage of asthmatic cases met with by the rhinologist. They comprise the so-called bronchial, spasmodic or nervous asthma (including the form of paroxysmal dyspnœa). They may be sub-divided into:—

Sub-group 1.—The paroxysmal and spasmodic forms of dyspnœa in which the mental element is undoubtedly the causative factor.

Sub-group 2.—The cases which I would refer to as nasal reflex asthma, in which a definite respiratory reflex exists.

Sub-group 3.—Those cases in which there is no irritable nasal condition present, but in which there is present a definite respirato-circulatory reflex.

The last two sub-groups, it should be noted, very often co-exist.

I will speak here of the first sub-group, such cases as "cat" asthma, pollen asthma and draught asthma, and cases in which such trivial things as the examination of the throat, or the opening or shutting of a door, or the playing of certain airs on a musical instrument, and such like, produce spasms of respiration and allied conditions. It is seldom that these paroxysmal attacks are seen by a medical man, the attack generally being over before the doctor arrives; we have thus to accept the history as given by the patient's friends or the patient himself. And, indeed, the latter is generally so well versed in his subject that hardly will we escape till we know it all, *ab ovo usque ad mala.*

I was fortunate enought to come across a case of this paroxysmal form of dyspnœa a few days ago. The patient, a well-covered man, 41 years of age, consulted me privately. He came to me because, a few nights previously when staying at his hotel residence, he was suddenly taken with a violent attack of "fighting for breath." He had had several similar attacks during the last few years. He would wake up in the middle of the night with a catching of his breath. All he could do was to jump up from his bed, and fling himself across it with arms stretched out from his sides. To use his own words, he thought on each occasion that his last hour had come. The noise made by his breathing was so loud that it considerably disturbed and alarmed his neighbours. The attack would last but a few minutes. He was a plethoric person; and, so far as I could observe on examining his chest, he had no signs whatever of disease. He had a well-marked nasal deformity, which, however, I do not think had any bearing on the attacks. He requested that I should not examine his throat without first using cocaine, as he always had violent attacks when this was not done. To see how he would behave, I did the forbidden thing; and immediately I touched his pharyngeal region with the tongue-depressor he jumped up and gasped for breath. His face took on a very anxious expression, and his inspirations became so noisy that my nurse came running in much concerned from the adjoining room. I had previously had some chloroform by me, a few drops of which on a towel soon alleviated the condition. Subsequently, after a little suggestion, I managed to have an excellent view of his larynx, without the use of cocaine. He declared that I was the first to accomplish this with him. Capsules of chloroform and ethyl chloride were ordered; and, with these in his pocket, he assured me that he was afraid of nothing.

Sub-group 2.—In this sub-group one finds such conditions as hypersensitiveness of the nasal mucous membrane; in it, for instance, touching the septum or middle turbinate region with a blunt probe produces a reflex cough. These cases would correspond to

the so-called asthma spots, the cauterization of which would give relief. Then we find such conditions as these deflected septi causing pressure on the middle turbinate bone; or, again, these two structures are sometimes so close that a slight increase in the thickness of the mucous membrane would cause them to touch; or, yet again, we find enlarged middle turbinates, with or without deflection of the septum (the enlargement of the middle turbinate may be due to a polypoid condition of the mucous membrane, or to a cystoid enlargement of the bone itself, which may cause pressure mesially upon the septum, or laterally upon the lateral wall of the nose; at times this is associated with ethmoid disease, in which case the polypi may be the causative factor in the disease); lastly, we find boggy conditions of the septal mucous membrane in the middle turbinate region. In this sub-group such treatment as is indicated for the condition present will frequently give excellent results. These patients, however, tend to have mild attacks of asthma even after long periods of freedom from the symptom, the recurrence being secondary to such conditions as over-work, worry, etc. I would here point out that the method of cauterization in these cases of boggy mucous membrane, and that adopted in the following sub-group, are different. In the above cases we aim at destructive cauterization.

The last sub-group is that in which our compatriot, Alex. Francis, has done so much good work. We should feel proud of the high position that one, who was formerly our fellow townsman, and whose early work was done in the front room of 69 Wickham Terrace, has attained to. The method of cauterization which he adopts is entirely his own; and I regret to say that I have come across many medical men, both in Australia and in England, who profess to follow Francis, and who, nevertheless, have not the slightest idea of his "streak" cauterization. It is Francis's aim to produce as little destruction as possible; he maintains that he can secure the desired result in the specific cases by this method. He is guided in the prognosis and the length of his cautery treatment by the fall or otherwise of the blood-pressure.

Francis divides his cases into three groups, according to the state of the blood-pressure, as follows:—

(1) Cases with blood-pressure above about 155 mm. Hg.. In this group if the blood-pressure is reduced by the cauterization, and remains down after several cauterizations, the outlook is excellent. We who have practiced this method, have had some wonderful immediate results.

(2) Cases with blood-pressure between 130-155 mm. Hg.. Here, Francis maintains, the outlook is not so good.

(3) Cases with blood-pressure below 130 mm. Hg.. I have proved that cases in this group, as Francis himself holds, are seldom improved by the cauterization.

It must be borne in mind that the above treatment should be kept up periodically, a good indication, I have found, being to cauterize with a rise in the blood-pressure. If one works on the blood-pressure readings in this type of case, one will not often be disappointed with the Francis treatment.

I have heard Francis's method talked of lightly, but never so by those who have had a right knowledge of it. In the treatment of the symptom of asthma, it cannot be denied that this method, if used in the proper cases, has a distinct place, a place of no little importance among those employed for this purpose.

INJURIES TO FINGERS.

By **W. Kent Hughes, M.B. (Lond.),**
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Injuries to tendons of the hand form a large part of the disabilities arising from war wounds, and, generally speaking, either no attempt is made to repair them or an inefficient operation is performed. The first step that should be undertaken is to abolish all scar tissue, especially in the region of the destroyed tendon. This is necessary for two reasons: (1) to prevent adhesions to the new tendon, and (2) to avoid sepsis as far as possible.

The abolition of scar tissue before undertaking a plastic operation, in my experience, is woefully neglected, and, in consequence, many otherwise skilful operations end in disaster. Scars from war wounds are, as a rule, unusually deep, and include many pockets of septic matter. They slough when pressed or stretched, and so the bone graft or new tendon is destroyed.

Take the case of a soldier who has had a portion of the palmar surface of a digit shot away, leaving a deep scar and a useless finger. First the scar is thoroughly excised and then, by a flap, the raw surface is well covered by skin, etc., if possible; if not, islets of whole skin grafts are implanted on the raw surface. In the latter instance some weeks must elapse before undertaking the repair of the tendon. When the palmar surface is well covered with good skin, an incision is made laterally, commencing well above and below the ends of the tendon, if possible. The ends of the tendon are then repaired. Next a long incision is made above the wrist, a little to one side of the tendon involved. The tendon is dissected up and freed from its attachment to the muscle, care being taken to preserve its sheath. Now return to the proximal end of the destroyed tendon, which is pulled up and attached to the distal end by fine sutures. Some difficulty may arise here from deep adhesions, and these must be thoroughly freed, as no force should be used or injury will be done to the tendon sheath. In some cases the adhesions have to be followed to the wrist, and even occasionally above it. This part of the operation is often tedious, as it has to be done very carefully and yet very thoroughly. When the tendon has been pulled up and attached to the distal end it only remains to attach its proximal loose end to a muscle or tendon in the neighbourhood and suture up the skin incisions. Gentle movement should be indulged in the next day, and so on. My excuse for this suggestion arises from the fact that I have seen a good many useless fingers either left or amputated. I have found this method much superior to bridging the gap with other tendons or with silk.

EMERGENCY SURGERY.

Notes on 166 Consecutive "Immediate" Operations Performed at the Melbourne Hospital.

By **Athol S. M. Tymms, M.D., M.S. (Melb.),**
Acting Surgeon to Out-Patients, Melbourne Hospital; Examiner and Demonstrator in Anatomy, Melbourne University.

(Continued from page 451.)

(v.) Pancreas.

In contra-distinction to the two conditions affecting the pancreas in the preceding group, the three cases to be mentioned here were acute conditions of the pancreas. Two were in females, aged 31 and 37 years respectively. The diagnosis given in the first of these was that of perforated gastric ulcer or gall-bladder. She had been ill for three weeks with bilious attacks, and three days before admission had very severe epigastric pain radiating through to the back and down to the right iliac fossa, with vomiting. The pain and vomiting had persisted, and the abdomen was generally rigid. Her temperature was subnormal and the pulse uncountable. The abdomen was opened through a right rectus incision. The omental bursa was found full of blood-stained fluid, and there were hæmorrhagic patches in the colic and hepatic omentum, with tuberculous-looking plaques scattered on the bowel. The usual appearances of fat necrosis were observed. The gall-bladder was normal in appearance, but on being drained it was found to contain a few small calculi and clear bile. The pancreas felt soft and hard in patches. The omental bursa was drained by a tube into it below the stomach, down to the pancreas, and the pelvis through a stab incision above the pubis. The patient did excellently until the sixteenth day, when she died suddenly. The autopsy disclosed acute hæmorrhagic pancreatitis, with retro-peritoneal abscess extending into the right iliac fossa. It was gauged from the post-mortem examination that posterior, especially left-sided, drainage, as advocated, would not have been of value in this case.

The second patient was transferred from the medical wards with a diagnosis of intestinal obstruction or perforated gastric ulcer. She was a very obese woman, with slight cyanosis. The urine contained no sugar, but a trace of albumin. The upper part of the abdomen was opened and the organs found to be healthy, but there was a moderate amount of blood-stained fluid, a cause for which could not be ascertained. The pelvis was drained through a stab incision above the pubis, and she did well, being eventually discharged from the hospital. This case gave one the impression of being uræmic.

The third case, that of a very obese, suffused-faced man, aged 39 years, was diagnosed as acute appendicitis. He had had three previous attacks of abdominal pain and had a marked alcoholic history. The pain in the last attack was in the right iliac fossa, later becoming generalized, and was associated with retching and a temperature of 38.3° C. Abdominal rigidity was more marked in the iliac fossa. The urine contained a trace of sugar. The lower part of the abdomen was opened, and blood-stained fluid escaped in large quantity. It was noticed at once that the bowel was somewhat livid, the bands of the large bowel showing out distinctly white. The appendix was normal. Small, pin-head sized white spots were observed in the fatty tissue, with the exception of the great omentum, in which the fat was of a dirty, worm-eaten appearance, without the white spots, and the hand exploring could detect nothing but an extremely hard pancreas. The pelvis was drained. At present it is too early to give the result of this case.

I have suggested elsewhere in this paper that the presence of blood-stained fluid in the abdomen demands a differentiation between cases of acute pancreatitis, late intestinal obstruction, ruptured ectopic gestation and trauma of solid viscus or mesentery, whilst the differential diagnosis of this affection has to be made from perforated gastro-duodenal ulcer, acute gastritis, appendicitis with peritonitis and intestinal obstruction. In the first of these cases the process was of the acute type, hæmorrhage predominating, and though an abscess formed later, infection did not appear marked, as evidenced by the condition of the gall-bladder and ducts. The two other cases correspond to the subacute type. Gall-stones were not present in the female patient, nor demonstrated in the male, in whom alcohol was a governing factor, the pancreas being enlarged and markedly hard (chronic fibrosis), and sugar was present in the urine. Neither patient was jaundiced, but both presented the slightly cyanotic or livid appearance pointed out by Moynihan.

(vi.) Liver.

The only cases met with in emergency operations upon the liver were rupture from trauma. Hydatids were met with, but did not call for immediate operation.

In accident cases there often arises the question of laparotomy for intra-abdominal hæmorrhage due to rupture of a solid viscus, such as the liver, spleen or kidney, and the difficulty is increased where there are associated injuries elsewhere, such as skull fractures, comminuted limbs or injuries to the chest wall. In the latter, where the lower ribs are involved, there is always the possibility of an injury to the upper abdominal organs. Occasionally a severe injury, such as that to a limb, is so apparent that attention may be detracted from an intra-abdominal lesion associated with it. Again, the patients are usually more or less shocked, the signs and symptoms of hæmorrhage and shock being thus combined. Where there is a wound or evidence of trauma to the abdominal wall, localization to a particular viscus may be easy, and in the absence of signs the nature of the accident and direction of the violence are often helpful. In the worst cases there is overwhelming evidence of hæmorrhage, but no indication as to its source. In others there are practically no signs of hæmorrhage, but local pain and tenderness, with a history of injury, may be present. That in hæmorrhage, particularly intra-abdominal, the classical signs are not always in evidence, has appealed to me on several occasions.

It is admitted that they depend on the amount of hæmorrhage, but a case has been seen in which the abdomen contained pints of blood, the patient's colour was excellent, his pulse good, and he himself quite restful.

It is conceivable that small tears, with hæmorrhage, may become blocked with clot and healing may result, but infection of the clot may result. This eventuality is negligible where the abdomen is not opened nor the bowel injured.

In the cases observed, the tear in the liver has been usually in the inferior surface to the right and dorsal to the fissure for the gall-bladder. In one case it was associated with a tear in the splenic vein at the hilum of the spleen, whilst in another case the liver was practically torn in half, only being supported by its peritoneal ligaments cranially. In this latter case the signs of intra-abdominal hæmorrhage were unmistakeable, and the patient *in extremis* at operation. In the former the signs were less well marked. The wheel of a waggon had passd across this man's body from the left shoulder to the right pelvis, fracturing the upper seven ribs. On admission late in the afternoon the pulse was 80, the temperature 37.8° C.; an hour later 36.6° C. and the pulse-rate 84. At midnight and at 3 a.m. he seemed comfortable, the pulse being about the same. At 6 a.m. the pulse-rate was 120; at 10 a.m. it was 104, and there were no signs of pallor. He complained then of colicky epigastric pains, with some tenderness and fullness extending down the right side, and his breathing was painful. A perforated viscus was suspected rather than hæmorrhage. At immediate operation the abdomen was full of blood. The stomach was distended and literally floating in blood, whilst the right loin and iliac fossa were full of clotted blood. A large tear was seen on the inferior surface of the liver, but was not bleeding, whilst blood welled up from above the stomach and could not be controlled. Later the pathologist found a tear in the liver and a small one on the spleen, neither of which seemed to account for the severe and fatal hæmorrhage, which was thought to proceed probably from the splenic vein. There was, in addition, a left hæmothorax. When seen in the early stages he did not appear to be bleeding, and even just before operation his colour was normal and his pulse did not correspond to the amount of hæmorrhage found. The associated chest condition gave rise to considerable pain, whilst the nature of the injury suggested an abdominal lesion as well.

A third patient was struck in the abdomen by the shaft of a cart whilst riding a motor-cycle. He looked somewhat shocked, was pale and had very slight tenderness over the liver and in the epigastrium. The temperature was 37.2° C. and the pulse-rate 58. When seen an hour later his condition was the same. Reluctantly his abdomen was explored, and on opening it in the upper region a cupful of blood was found proceeding from a tear in the interior surface of the liver. This was plugged with gauze. The patient made a good recovery. Whether he would have recovered without operation is a matter for conjecture.

The risk of operating on a shocked patient is great, but it will be greater when hæmorrhage is well established.

Laparotomy should be influenced as much, if not more, by the nature of the injuring force as by the clinical signs present.

(vii.) Spleen.

Rupture from trauma occurs under the same conditions as that of the liver. It is, however, more often associated with injury to the left kidney, and some further indication of this injury may be suspected where there is hæmaturia, on account of the close relationship between the two organs. Usually it is injured by crushing of the loin, as by that produced by a wheel of a vehicle, even without it passing over the body. Again, being mobile, it, along with its pedicle, is liable to injury from blows and falls, resembling in this respect the jejunum. Occasionally a patient may show no signs of hæmorrhage until two or three days have elapsed, when the symptoms may come on quite rapidly. Hæmorrhage is difficult to control, on account of the mobility of the organ and its great vascularity, and splenectomy is more frequently indicated than mere plugging or suture of the laceration. Occasionally a concomitant kidney injury may necessitate nephrectomy as well.

The case here recorded was that of an elderly man who walked into hospital in a pugilistic alcoholic condition and stated he had received a blow from a knee in the upper part of the abdomen. He left the hospital, but returned in a short time, when the house surgeon, recognizing the possibility of some abdominal lesion, wisely admitted him for observation. A few hours later he was operated on. Through an upper mid-line incision the spleen was easily reached and removed for a tear curving round the hilum, the hæmorrhage from which could not be controlled by packing. He did excellently, despite the fact that it was necessary to commit him to the refractory ward during his stay in hospital.

Though in these cases there are no adhesions binding the spleen to the diaphragm, and increasing the difficulties of its removal, as pointed out by R. Stirling in his papers on "Splenectomy in Splenic Anæmia," yet care is needed in the ligaturing of its pedicle, as fatal hæmorrhage from the pedicle has been observed where particular care had been exercised in its ligaturing.

A lateral oblique incision is usually not necessary, the spleen being readily accessible through a mid-line or left rectus incision.

(viii.) Kidney.

As illustrating the differential diagnosis of acute abdominal conditions, there is included under this heading a case of pyelitis with pregnancy. From the character of the abdominal pain, tenderness and rigidity, acute appendicitis had been diagnosed, but operation disclosed a pregnant uterus, but no pathological condition within the abdomen. The urine contained pus, and later *bacillus coli communis* was cultured from it. The temperature (40° C.) was higher than that usually observed in appendicitis.

Two cases were presented to me as early perforating gastro-duodenal ulcers, both in males. In the first case operation disclosed a normal abdomen, and later investigation proved the case to be one of uræmia. On the second occasion I refused to operate upon a patient with similar symptoms, recognizing the condition as uræmia. Both these persons had fairly acute epigastric pain, with tenderness, fullness and rigidity, and the condition simulated closely those

cases described as leaking ulcers, where the perforation is small (pin-point) or there is definite attempt at closure by the surrounding organs. Such cases, however, are not common. Examination of the urine and blood pressure and the odour of the breath are generally sufficient to establish the differential diagnosis. Again, the gastric crises of *tabes dorsalis* should be remembered in this connexion, and this emphasizes the need for systematic examination in every case prior to operation.

(ix.) Pelvic Organs.

Fallopian Tubes.—Conditions affecting the tubes for which immediate operation may be necessary are chiefly salpingitis and tubal pregnancy. Many acute cases of the former, however, subside without operation, whilst the latter may lead to rupture of the tube or extrusion of the ovum into the abdomen, with varying degree of hæmorrhage, the amount of which determining the need or otherwise for immediate operation.

The classical cases, with marked intra-abdominal hæmorrhage, are far less frequent than those with smaller hæmorrhages associated with tubal pregnancy.

Though ruptured ectopic gestation calls for a moderately large proportion of the immediate operations performed at the Melbourne Hospital, there were no cases that fell to my lot to record in this series of operations.

On the other hand, operations for salpingitis constituted 6.6% of the total, 3% of all abdominal operations, and 78% of the operations performed for all primary pelvic conditions.

These cases could roughly be divided into two classes: (*a*) early cases, and (*b*) old cases. Both were acute, but in the latter the acute attack occurred in tubes that were chronically affected by previous inflammatory mischief.

There were three of the early type, with engorged, congested, but not thickened tubes, from two of which yellow, purulent fluid was leaking at the fimbriated extremity, and with gonococcal peritonitis. One of the patients gave a twelve months' history of gonorrhœa, with vaginal discharge, but the tubes merely showed this early stage. In the third case no such pus could be expressed, but the peritoneum and bowel were injected, and there had been a miscarriage three months previously, with the last mentrual period just completed.

The late George Rennie referred to these early cases as the "gonococcal blush." So rapid was the upward spread of the infection to the peritoneum following a menstrual period that the tube did not always present the stage in which a purulent discharge could be milked from its extremity.

That these cases came to operation was due, firstly, to the difficulty met with in differentiating them from acute appendicitis; secondly, to the inability often experienced in separating them from the second type; and, thirdly, to the fact that their symptoms were so severe and urgent and the patient so acutely ill that operation was demanded. That such early cases, though the patients are often acutely ill, do subside without operation is evidenced by the conditions obtaining in the older types. Operation is, therefore, frequently refused until the acute condition has subsided or a fresh exacerbation ensues with urgent symptoms. In nearly all the cases of salpingitis a careful history will disclose at some time or other evidence of gonococcal infection, with dysuria and vaginal discharge. In a few this could not be obtained, and as there was a doubt as to the diagnosis, immediate operation was adopted.

When an operation is performed in the early cases, the question of what to do arises. So frequently is the patient a young, unmarried woman, that one hesitates to remove the tubes, but when one considers the conditions found in the older types, the period of sterility following infection, and the complications that arise affecting other viscera, it would appear that removal is the safest plan. Conservative operations, such as partial excision, complete or partial splitting up of the tube, or expression of pus from tube, though thought desirable, and often primarily successful, lead to graver conditions at a later date. From the nature of a gonococcal infection, it is scarcely possible for an infected tube to functionate.

The need for drainage is not so great here as is the case with the other pyogenic infections. The late Mr. Rennie frequently closed the abdomen without drainage in these early cases, after conservative operations upon the tubes, such as splitting up or milking the tubes, with good operative results. The ultimate results were rarely traceable in hospital practice. In one of my early cases, in a girl, aged 17 years, in whom the stumps of both tubes were retained and the abdomen closed without drainage, pelvic drainage had to be established at the end of 36 hours.

In the older types, those in which an acute exacerbation had occurred upon old, quiescent or chronically inflamed tubes, there was usually a large mass in the pelvis. The tubes were either greatly thickened, convoluted and with their closed, fimbriated ends adherent in the depths of the *cul-de-sac*, or they were converted into pear-shape sacs containing fluid, and involving the softened cystic ovary, or there was an associated tubo-ovarian abscess.

In five of the eight older-type cases, the appendix was adherent to the right tube, occasionally along with the omentum. In one it had been removed 15 months previously. Appendicectomy was performed, in addition, in eight cases, in five of which it was distinctly inflamed.

Double salpingectomy was performed in eight cases, in half of which double oöphorectomy was combined. Whenever possible an ovary, or portion of one, was retained.

Eight cases required drainage, whilst only in one of the three early cases was this established, and then at the end of 36 hours.

There were no cases in which adhesions to the bowel provided insurmountable difficulties, though their presence prolonged the operation.

In view of the acute condition, in no case was the operation of pan-hysterectomy, as an emergency operation, indicated.

Tuberculous affections of the tubes were not encountered. Though frequently very ill, these patients got well quickly. There were no deaths amongst these cases.

Ovary.—On being called to operate at midnight for acute appendicitis in a female, aged 28, I found,

on opening the abdomen, a large, coal-black tumour lying at the right brim of the pelvis. This proved to be a large ovarian cyst, with twisted pedicle (2½ turns), involving the right tube. There had been intense abdominal pain and retention of urine, whilst the temperature and pulse-rate were respectively 37.8° C. and 106. Menstruation was in progress. The left tube and ovary were normal, and the appendix retro-caecal and adherent from chronic inflammation.

On another occasion a girl, aged 16 years, with mumps, developed later in the day of admission acute pain low down in the right iliac fossa, with local tenderness and rigidity and retching, and her temperature was 38.3° C.. Suspecting the condition to be a metastatic ovaritis, I was inclined to wait; but being called later in the day to the case, and finding the local signs slightly more marked, I operated, as much with the object of proving this diagnosis as from the risk of leaving an associated acute appendicitis. The appendix was found to be normal, but the right ovary was demonstrated to be very large (twice normal size) and acutely congested and free.

The corresponding metastatic condition in the male is fairly common in adults, but ovaritis, according to Osler, is rare, and probably more so before puberty. The case occurred at a time when an epidemic of mumps was prevalent in Melbourne.

Mentioning this case recalls to mind two other cases of metastases met with, which are apparently not common. Both were cases of carbuncles of the back of the neck, one developing an acute parotiditis, the other an acute orchitis. The former may possibly have been an associated mumps; the latter was certainly not of gonococcic origin.

Uterus.—Conditions of the uterus that would be likely to come within the scope of immediate operation are not as commonly met with in a general hospital as they would be in a special hospital. Apart from an occasional abortion or infected uterus, they are limited to acute changes occurring in tumours of the organ or complications arising from their presence in the pelvis.

A female, aged 33 years, was sent to hospital with a diagnosis of ovarian tumour. The lower segment of the abdomen was distended and tender, with a swelling palpable on the left side, which was distinctly tender. Vaginal examination revealed an enlarged uterus, with a soft tumour movable with the uterus. The patient was acutely ill. When the abdomen was opened the omentum covered the tumour, presenting towards the left iliac fossa, and free pus and peritonitis were present.

On raising the omentum a pedunculated suppurating fibroid was disclosed springing from the dorsal aspect of the left uterine cornu. The omentum was partially occluding a large rupture in the ventral wall of the fibroid, through which pus was exuding and had infected the peritoneum. The uterus was large, flabby, and obviously infected, the tubes showing a similar condition, but apparently not of gonococcal origin. The fibroid was first removed, to prevent further soiling of the peritoneum, and it was decided to proceed with a hysterectomy rather than to leave the infected organs for later operation. A second large broad-ligament fibroid was present on the right side. Both pelvis and vagina were drained, and the patient did excellently.

Infection had occurred following upon a miscarriage some weeks previously. The case exhibited a good example of the attempt—and failure—of nature to protect by the omentum the peritoneal cavity from infection; and yet it showed the general resistance of the patient to infection in the presence of such operative procedure as was carried out.

I desire to thank the members of the in-patient surgical staff for the facilities they have afforded me in carrying out the operative treatment of these cases; also the Superintendent, Registrar and members of the resident staff for valuable help in preparation and after-treatment.

Reviews.

RECLAIMING THE MAIMED.

The task of making fit again the broken men of war is one covering a vast field of activity. Yet Tait McKenzie has condensed the subject into a pocket book of scarcely more than a hundred pages.[1] Its ten chapters are devoted to a consideration of medical electricity, radiation therapy, hydrotherapy, massage re-education, gymnastics and athletics, occupation therapy and cosmetics. The book is founded on an experience gained chiefly at Heaton Park, Manchester, and the author's intimate knowledge of his work enables him to enumerate the salient points with something like the brevity of a catalogue.

The returned man is, and will continue to be, a complex and many-sided problem. His restoration to the highest pitch of physical and mental efficiency is something we owe both to him and to his country. In some cases incidents will occur during the treatment that will demand much patience and forbearance, but even if the remembrance of our indebtedness to him begins to wane, we still owe it to the State to see that the number of its dependents is reduced to an absolute minimum. The mere State-dependent is both useless and unhappy. We are at last emerging from that bad era in which such unfortunates as the completely blind were coddled in idleness and sympathy till the manhood in them had evaporated. It is now our endeavour to maintain and even to elevate the moral condition of these individuals by giving them an occupation, which, while robbing them of their opportunity for self-pity, gives them some self-justification for the continuance of their existence.

The injured man experiences a sudden relaxation of discipline, which is, not infrequently, injurious to his moral fibre. A lethargy of mind and body follows the tense period of varied emotions through which he has passed, and it is often difficult to rouse him from this sluggishness. The hero-worship in which he reposes brings him dreams of an indulgent State, providing for his future needs; he awakens to the reality very slowly, and the hero of yesterday becomes an uncomfortable neighbour—the man with a grievance.

Even if this is true of only a small percentage of the returned wounded, it is a problem to be faced. The dangerous stage is obviously that period which intervenes between his convalescence and his return to a regular occupation. It is during this time that, surfeited with self-indulgence, he becomes so slack that later on he finds himself unable or unwilling to recover his tone. The re-education of the disabled soldier as soon as possible, consistent with his condition, is therefore the most important phase of treatment, and the chapter which Tait McKenzie devotes to this subject will repay a careful consideration. It is good to read of the hospital for limbless men at Cardiff, where Lynn Thomas, with the aid of a landscape gardener, has constructed a golf course, wherein bunkers are used to represent the difficulties a legless man may have to overcome. The walks are graded in various slopes; there are mounds of earth covered with

[1] Reclaiming the Maimed, A Handbook of Physical Therapy, by R. Tait McKenzie, M.D.; 1918. New York: The Macmillan Company; Sydney: Angus & Robertson, Ltd.; Pocket size, pp. 128, illustrated. Price, 8s. 4d.

scrub, an artificial pond with a bridge to be crossed, a stile, a gate and paths tilted in various ways.

In the difficult task of masking facial deformity the painter and the sculptor have been enlisted. Thin copper is now found to fulfil all demands in a mask. Captain Derwent Wood, A.R.A., models directly in a plasteline base and, guided by recent photographs, works in the missing feature. Eyebrows are made of real hair and eyelashes of tin-foil, cut in thin strips and suitably coloured, are soldered to the edges of the eyelid in the model. A lost ear is replaced by one modelled from the remaining pinna and attached to the face by spirit gum. By such means horribly disfigured men have been robbed of their self-consciousness and enabled to take important posts.

The author, in spite of his condensation, takes nothing for granted in the reader, and the very elements of massage and electricity are explained. His book represents rather a cursory glance than a detailed study of the subject, but it will be found interesting, particularly to those members of the medical profession who have not seen the far-reaching efforts being made in Great Britain to lessen the wastage of war.

Notes on Books.

SOME CHRISTMAS GEMS.

The world has at last regained its lost sense! After a brief space the great work of repairing some of the breakages of the war will occupy men's attention and with the work of destruction ended, the peaceful, useful fight of creating a better and happier, as well as healthier, world will proceed. We are not yet sane again—that must take a little time. We lose our heads over an imaginary danger, and try to hide our fears behind a mask of gauze. Instead of trusting those who have the knowledge and will to protect us from an invisible foe, we show our unreasonableness by fostering jealousies and stimulating strife. We have yet to learn again to be at peace. Messrs. Angus & Robertson have proved themselves a much wiser Board of Health than the departments in Macquarie Street or Queen Street, and the best Xmas physicians in our Australian cities are Miss May Gibbs, Miss Zora Cross, Miss Olive Crane and Mr. Sydney Ure Smith. Charming "Snugglepot and Cuddlepie" and the altogether irresistible "Wattle Babies" force us to forget trench fever and the uncertainties of inoculation with a medley of germs of unknown pathogenicity. The "little pirates of laugher sink cargoes of care" in the mystic City of Riddle-Me-Ree, while the charms of Sydney (*pace* ye dwellers of Melbourne!) offer unalloyed pleasure of a lasting kind. None of us is too old for a real picture book. These four gems are works of art. For a little more than a half of a sovereign or its paper equivalent you can buy them and some delightful calendars and Xmas cards. You can enjoy them yourself before you send them to your friends. Don't forget to buy your set early.

Public Health.

NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the week ending November 23, 1918:—

	Metropolitan Combined District. Cs.	Dths.	Hunter River Combined District. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever	12	0	3	0	8	1	23	1
Scarlatina	11	0	1	0	11	0	23	0
Diphtheria	28	0	8	0	45	1	81	1
*Pul. Tuberculosis	20	9	1	0	6	1	27	10
C'bro-Sp'l Menin.	0	0	0	0	1	0	1	0
Malaria	1	0	0	0	0	0	1	0

* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending November 24, 1918:—

	Metropolitan. Cs.	Dths.	Rest of State. Cs.	Dths.	Total Cs.	Dths.
Enteric Fever	0	0	1	0	1	0
Scarlatina	36	0	22	0	58	0
Diphtheria	73	4	42	0	115	4
Pulmonary Tuberculosis	25	6	11	1	36	7
Puerperal Fever	2	—	0	—	2	—

QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending November 23, 1918:—

Diseases.	No. of Cases.
Enteric Fever	14
Scarlatina	6
Diphtheria	31
Pulmonary Tuberculosis	12
Erysipelas	2
Anchylostomiasis	1

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, during the fortnight ending November 16, 1918:—

	Adelaide. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever	0	0	5	0	5	0
Scarlatina	1	0	43	1	44	1
Diphtheria	3	1	35	0	38	1
Pulmonary Tuberculosis	1	3	8	7	9	10
Erysipelas	0	1	4	2	4	3
Morbilli	0	0	3	0	3	0
Pertussis	9	1	41	1	50	2
Influenza	0	0	1	0	1	0
Bilharziosis	0	0	1	0	1	0

WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending November 9, 1918:—

	Metropolitan. Cases.	Rest of State. Cases.	Totals. Cases.
Scarlatina	6	3	9
Diphtheria	6	0	6
Pulmonary Tuberculosis	3	4	7
Erysipelas	1	0	1

TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the week ending November 16, 1918:—

Diseases.	Hobart. Cases.	Launceston. Cases.	Country. Cases.	Whole State. Cases.
Diphtheria	0	4	4	8
Pulmonary Tuberculosis	2	0	1	3

Notwithstanding the plucky attempt on the part of two members of the Legislative Council of Victoria to keep the Bill alive by the application of stimulants, in the shape of wordy but unconvincing argument, the *Compulsory Vaccination Abolition Bill* died of inanition on November 19, 1918. We congratulate the Victorian Parliament for having disposed of this mischievous measure.

A bill has been introduced in the New South Wales Parliament by the Premier, for the purpose of dealing with venereal diseases. The bill is dated November 29, 1918. A résumé of the principal clauses will be published in next week's issue.

The Medical Journal of Australia.

SATURDAY, DECEMBER 7, 1918.

The Medical History of the War.

The library of the war has already assumed collosal proportions, and efforts appear to have been made in England to collect it, and to prepare a catalogue. Enterprising persons, some of whom have obtained a real glimpse of a very small section of the war, have endeavoured to draw "lessons of the war," while others have tried to create a history contemporaneously with the events. Unfortunately, truth has been freely admixed with fiction in many of these attempts, and even the newspaper records, as events have proved, are unreliable for chronicle purposes. The great library is largely a waste of paper. It may be a generation hence, or even two, before the true perspective of the struggle can be ascertained, and before the component parts can be pieced together intelligently into a concrete whole. But in order that future historians may have the power of carrying this out with accuracy and without passion, it is essential that the smallest events should be recorded, classified and put into their proper places. This work is necessarily a stupendous one, because of the unprecedented size of the armies, and of the incomparably greater intensity of the offensives than in any previous war. The British War Record Section has been engaged for a long time in dealing with facts, and when the time is ripe the first real British history of the war will be written from these official records. In May, 1917, an Australian War Record Section was established, and Captain J. L. Treloar was appointed Officer in Command of the Section. Work was started in Chancery Lane, and the first task undertaken was the collection of the war diaries of the units. The office was a small one, consisting of but five people, including the Officer in Command. Soon it was found that the responsibility of collecting and preserving the diaries, as well as private diaries, war trophies, photographs, both of an official character and of a more or less private nature, trench and regimental magazines, sketches of members of the Australian Imperial Force, personal memoirs and other souvenirs of historical interest should be transferred from the office to the High Commissioner to the Australian War Record Section. In November, 1917, the Section moved into fresh quarters in Horseferry Road, and about the same time Lieutenant Gullett was appointed liaison officer. Once established in ample surroundings, it was possible to extend the activity of the Section and to create the different departments under expert guidance. The medical branch was duly instituted, and the collator appointed was Colonel A. Graham Butler, D.S.O. The other collators were not relieved of their military duties, but were asked to act as advisers to the Section in their spare time. The experience in the British office, however, indicated that the collection, classification and handling of medical war records was a matter needing the whole attention of an expert officer. The Assistant Collator appointed was Captain Drummond, a whole time officer with headquarters in the Section office. Later a Sub-Collator for Egypt was appointed, the officer chosen being Colonel R. M. Downes, C.M.G. Lieutenant-Colonel H. S. Newlands, D.S.O., was appointed to supervise the collection of surgical and pathological specimens illustrating the effects of modern warfare on the human body and on animals. The specimens were handed over temporarily to Professor Arthur Keith, F.R.S., the Curator of the Museum of the Royal College of Surgeons. In addition to two men of uncommissioned rank, Major W. K. Inglis has been drafted to the Royal College to assist in the work of classification and storing the specimens. The medical branch of the War Records Section is now a going concern, with a competent and sufficient staff, under the able and enthusiastic direction of Colonel Graham Butler.

The objects which were kept in view from the commencement in this branch, were to ensure that the future records should be sufficient. This was carried out during the year 1918, by taking steps to improve the war diaries. A marked improvement was noted as time went on, and even now, after hostilities have ceased, amplification and supplementation of existing

diaries are proceeding. In the next place the Collator sought to obtain memoranda on special subjects. The subjects were carefully chosen, and the persons asked to supply the memoranda were selected on account of their qualifications to give the information. In the third place the Collator endeavoured to obtain personal notes from medical officers who were leaving the service, in order that the record of their services and experiences might be obtained. In this way it was hoped that the events after the institution of the Section might be adequately chronicled. In addition, attempts were made to obtain detailed accounts of the working of all medical administrations, units and organizations, such as the office of the Director of Medical Services, Australian Imperial Force, Command Depôts and the like. Lastly, the Collator set himself the task of searching for data dealing with the activity of the medical services in the past periods of the war, in order that the gaps existing in the records available might be filled in.

It is impossible in the scope of this article to indicate the methods adopted for the carrying out of the work. Much of this information will be conveyed in special articles to be published in future issues of this journal. Mention should be made now of the preparations for the transmission of the pathological and other specimens to the three medical schools in Australia, in order that these specimens may be available for teaching purposes in the Commonwealth. It will be gathered from this brief description that the work is very extensive and important, and that it has a wider significance than the mere chronicling of the events in history. The medical experience of the war must be utilized for possible future use. The medical profession in Australia must be placed in a position to profit by the successes and failures of the great four years' war. We appeal to those who have served in the Australian Army Medical Corps to lend their full assistance to Colonel Butler in his difficult task; and to others to support his endeavours by a real interest in the work. We should manifest such interest in the medical branch of the Australian War Record Section that the question whether or not a special history of the medical activity of the Australian Imperial Force shall be compiled and issued, may be answered in the affirmative.

QUARANTINE.

During the past few weeks parliaments and the daily press have been used almost violently for the purpose of perpetuating the animosity felt in certain circles against the Federal Government. It is not unnatural that those who realize the inevitable superseding of the Federal control for State control in matters of communal interests, and who have failed to grasp the real significance of an Australian nation, should manifest jealousy at the complete success of the quarantine measures adopted by the Federal authorities during the period of arrival of ships carrying persons affected with an epidemic disease. A member of the New South Wales Assembly recently announced that the Federal Government was treating the danger of an invasion of Australia by influenza with indifference, and that the Federal authorities cared very little about State interests, as long as the disease could be kept out of Melbourne. It is a great pity, after four years of war, with Australians fighting side by side, not as members of detached States, but as citizens of a great Commonwealth, that a prominent parliamentarian should exhibit signs of such desperate apprehension. The Federal authorities have attacked this problem of excluding a highly infectious disease from the Commonwealth with energy, skill and intelligence, and the thoroughness of their work must be regarded as one of the strongest arguments in favour of the abolition of State control, and the substitution of Federal control in all matters concerning the public health.

Another member of the New South Wales Parliament has attacked the same problem from a different aspect. He, too, pleads ostensibly for the safety of the population of his State, although underlying his concern is an unmistakable dread of the obliteration of State control. He argues that the quarantine station of the great port of Sydney should be moved to a site one hundred miles away, or, in the alternative, to another site thirty-six miles distant. The reason for the proposed removal of the quarantine station is a curious one. It is that the State parliamentarians, persons who have neither machinery nor obligations to protect the inhabitants from the admission of an epidemic disease, are afraid lest those who have both may fail in their endeavour. It has been

overlooked that a hurriedly established quarantine station, without suitable internal arrangements, far removed from the centres of population, is much more difficult to control than is a carefully chosen, conveniently-placed station. It would be a more strenuous task to guard the boundary of quarantine at Jervis Bay than at North Head, and if an infected person escaped, the city of Sydney would be jeopardized just as certainly as if one were to slip past the guard into Manly. Those who have given the subject of quarantine careful attention, and who have a proper understanding of its significance, are unanimous in the opinion that the stations must be close to the large shipping ports, preferably at the entrances of harbours. The station at Manly has several natural advantages. The relatively narrow tongue of land to guard is easy to control, and the command of the fairway into Port Jackson is very valuable. From time to time the public are scared when a hospital or sanatorium for some infective disease is established in a populous centre. The experience of the adequacy of isolation within a general hospital of persons suffering from the most infectious diseases disposes of the basis of these fears. It is just as sensible to fear the depredations of a notorious burglar securely housed in a city jail, as to be nervous of a spread of a disease from a patient adequately isolated in a hospital or quarantine station. The risk incurred in the event of an infected person escaping, is the same wherever the hospital or quarantine station is situated, for it is certain that the escapee would endeavour to elude capture by seeking the nearest large city. It is satisfactory to learn that the Federal authorities have adhered to their choice of the quarantine station. Wisdom was displayed in this choice, and renewed wisdom was shown in resisting the suggestions from those who were ill informed concerning quarantine matters, to transfer the station to an altogether unsuitable site.

POISONING OF PAINTERS WITH LEAD.

While it is well known that those who work with lead and its compounds, are liable to absorb this element, and to develope degenerative diseases of the nervous system, blood vessels, heart, kidneys and other organs, there is little information available about the amount of lead which is needed to induce these pathological changes. In Australia it is not even known what proportion of the men, in any industry in which white lead is used, is affected by plumbism. In other parts of the world there also seems the same failure to obtain the exact knowledge which would enable better means to be adopted to abolish the occurrence of the more severe varieties of chronic lead poisoning. The general vital statistics of the Commonwealth show no greater mortality among painters than among the rest of the community, but too great stress must not be laid on these figures, as painters who are poisoned, leave their trade.

Even in factories where white lead is made, no systematic study of every worker has ever been carried out to ascertain, as far as our present state of knowledge will permit, what percentage of the workmen has been affected by exposure for different periods of time. With the methods at present at the disposal of the medical man and of the analytical chemist it would be easy to determine what number has absorbed lead into their bodies, and what number shows one or more of the clinical manifestation of plumbism. If this information is to give any indications of the extent to which lead is absorbed or poisoning occasioned, the whole number of persons exposed to the risk must be examined. Where only a fraction is submitted to scrutiny, the results must be viewed with suspicion, since the sick are ever more ready for medical inspection than the healthy.

A clinical study[1] of the frequency of poisoning by lead among painters has been completed by Dr. Louis I. Harris, Director of the Bureau of Preventable Diseases, Department of Health, New York City. He circularized 20,000 members of the Brotherhood of Painters, as a result of which 402 painters submitted themselves for medical inspection at the Occupational Clinic. These painters were all employed on interior decorating, and there were no sign, carriage or iron work painters among them. Many of these painters came for examination while freed from work by a strike. The persons examined have been classified into four groups, those with active poisoning, those with latent plumbism, those with doubtful histories and normal persons. The cases of active poisoning were those in which the symptoms showed clearly that chronic poisoning by lead was taking place at the time of examination. The symptoms that were relied on for this purpose were colic, constipation, anæmia, backache and headache. In about one half of these patients lead was found in the urine. The latent cases of plumbism were those in which lead was discovered in the urine, but in which no symptoms pointing to poisoning could be detected. The doubtful cases were those in which symptoms suggestive of chronic lead poisoning were present, along with signs and symptoms showing the presence of other pathological changes, which might account for those symptoms indicating poison by lead.

Among the 402 painters who were examined at the Occupational Clinic, 162 exhibited evidence of active intoxication by lead. Of these 162 persons, 75 gave a definite reaction for lead in the urine. Since lead was sought by chemical means in only 40 out of the remaining 87 persons, it is evident that the proportion

[1] *Arch. Int. Medicine*, Vol. XXII., p. 129, August, 1918.

of persons in which lead was found in the urine was undoubtedly too low. Of the 162 persons, 87 showed colic, 117 constipation, 75 headache, 86 anæmia, 91 backache and 22 the Burtonian line on the gums. With regard to the question of miscarriages among painters' wives histories were obtained from 124 persons affected with chronic lead poisoning, among whom 116 were married. Among the wives of these 116 painters there had been 340 pregnancies according to their own statement. The number of children living was 257, the number of children dead was 13, and the number of pregnancies ending in miscarriages was 70. Of the 402 painters, 35 persons who showed no symptoms of disease, gave a reaction of lead in the urine. Of the 402 painters, 158 were considered to be healthy and free from any signs of plumbism, while in 47 persons the medical inspectors were unable to decide with certainty as to the presence or absence of lead.

Dr. Harris comments on the few precautions taken by painters against poisoning by lead, 276 persons exercising no care whatever. Eighty-one painters drank one to two pints of milk each day, and 45 painters drank regularly one glass of milk during the day. Many men commenced the day's work with little or no food for breakfast. Few were aware that a moderate breakfast with albuminous food, in particular milk, leaves little free acid in the stomach to act as a solvent of lead dust swallowed during work. Only 18 stated that they used paper to take hold of their food to prevent contamination by the fingers. The use of a nail-brush or of soap and hot water was very infrequent. Most of the painters stated that they ate their food and kept their clean clothes in places thickly covered with a dust of paint.

It seems highly desirable that steps should be taken to render painters aware that simple precautions of cleanliness and diet will greatly diminish, even if they do not entirely prevent, the absorption of lead. They should be specially made aware that the swallowing of lead dust is the chief factor in causing disease. Every opportunity should be taken to encourage painters to cleanse the hands and face thoroughly before taking food, which should be eaten in a clean place not contaminated with dust laden with lead.

THE TRANSMISSION OF ACQUIRED CHARACTERS.

Hitherto it has been denied that a pathological change can give rise to modifications of the germ cells capable of influencing descendants through several generations. The possibility of such a modification has frequently been discussed, and as often have biologists found definite evidence of disproval. Perhaps the most difficult circumstances to explain have been in connexion with certain types of insanity which have apparently been acquired by a certain individual and transmitted by him to future generations. But while the task of disproving that an acquired character has been transmitted from parent to progeny is difficult, the proof that the character which is transmitted in these cases is actually an acquired one, is even more difficult to adduce. We have now before us the record of a long series of carefully conducted experiments, which must compel us to abandon the Darwinian attitude, if the findings are confirmed by other investigators. During the course of seven years, Dr. Charles R. Stockard has been investigating the effects of the inhalation of alcoholic vapour on guinea pigs and their descendants.[1] In these experiments the utmost precautions were taken to ensure a healthy supply of guinea pigs, and fresh strains were introduced to prevent the complicating effects of inbreeding. Controls were chosen in such a way that in every case the normal animals and the descendants of the treated animals were bred under equally favourable circumstances, and were subjected to exactly the same environmental influences. Inhalation was chosen rather than stomach feeding with alcohol, because the intoxicating effects were just as well produced by the former, while the interference with digestion and metabolism was absent. A very large number of animals was used and special housing and feeding methods were adopted. The effect of the inhalation on the treated animal is described as inability to walk without staggering, as a result of muscular inco-ordination, and, after long treatment, a state of complete alcoholic stupor. The mucous membranes of the respiratory passages become irritated at first, and the same changes take place in the eye. In a few cases blindness has resulted from prolonged treatment. The inhalations last for one, two or three hours daily for several years. The animals remain vigorous, and often live quite as long as the controls. No visible changes resulted in the treated guinea pigs.

The authors describe in considerable detail the effects noted in the descendants, and analyse the results in various ways. From these records and discussions it appears that the size of the litter is reduced in alcoholic guinea pigs as compared with normal animals. The failure to conceive is greater, while the early prenatal death is consequently high. Late prenatal death is higher in the alcoholic than in the normal animals, while the post-natal mortality is unaltered. Abnormalities are much more frequent. The question is raised whether the effect is the same in the sperm cell or spermatozoon and in the germ cell or ovum. The productivity is greatly reduced when the male is treated, while the offspring is of better quality than that derived from a normal father and a treated mother. In tracing the qualities of guinea pigs among whose ancestors only males were treated, as compared with those of guinea pigs among whose ancestors only the females were treated, it was found that the total number of progeny was larger with the former, and the early prenatal mortality was much higher. The baneful effect of treatment was well seen in the second and third generation. Some very curious effects were noted in regard to the effect of alcoholism in the parents or ancestors on the sex ratio. The normal sex ratio is 113.2. Guinea pigs whose mothers or whose female ancestors were treated showed a sex ratio below 100, while those whose fathers or male ancestors had been treated showed a sex ratio of a higher figure, but one still below the normal. On the other hand, when both parents were alcoholic, the males preponderated in abnormal proportions. The authors find that a high sex ratio and

[1] Charles R. Stockard and George N. Papanicolaou, *The Journal of Experimental Zoölogy*, May 20, 1918.

a high early prenatal mortality are associated with a low total late prenatal and post-natal mortality. Many other facts are adduced to show the influence on the progeny of alcohol inhalation in parents or ancestors. It is obvious from the facts recorded that the alcohol produced changes in both the spermatozoa and the ova. The degree of these changes obviously varied widely. Some cells apparently escaped completely or to a great extent, while others were very profoundly affected. In many instances the changes were transmitted through the sperm cells or the germ cells, and led to altered qualities in succeeding generations. The authors discuss and theorize on the apparently anomalous modifications induced in some cells. This need not detain us at present, since the main fact is of immediate importance, whether the evidence is acceptable that alcohol is capable of producing definite modifications in germ cells, which may be transmitted to the descendants of the treated guinea pigs. The evidence appears to be conclusive and, as has been stated above, the conclusion must be accepted if the findings can be confirmed by other observers.

THE INFLUENZA EPIDEMIC IN AMERICA.

According to a report published by Lieutenant J. J. Keegan of the United States Navy, an extensive investigation into the bacteriology of the pandemic of influenza extant at the end of August and the beginning of September has been undertaken.[1] It appears that in two weeks over 2,000 cases occurred in the First Naval District, and that there were grave indications of a general spread of the disease, which corresponded clinically to the influenza reported from Spain and other European countries. In all, 23 cases were investigated. Difficulty was experienced in obtaining reliable information from the sputum and the mucus in the naso-pharynx. The investigators, therefore, had recourse to lung puncture and material gained after death. Cultures prepared from the lungs revealed the influenza bacillus of Pfeiffer in 19 out of 23, *i.e.*, in 82.6% of all cases investigated. In thirteen of these cases the pneumococcus was present, in addition to the influenza bacillus. Type II. was found six times, type III. twice and type IV. five times. One patient had pneumococci of both types II. and III. In the negative influenza cases a *streptococcus hæmolyticus* was found, and this organism was found once in association with Pfeiffers' bacillus and pneumococcus of type IV. The *micrococcus catarrhalis* was grown in three cases, and in the same number *staphylococcus aureus* was also found. Blood cultures prepared from the heart's blood revealed pneumococci of types II. and IV. in three cases out of fifteen, *streptococcus hæmolyticus* twice, and *micrococcus catarrhalis* once. In no case was the influenza bacillus regained from the heart's blood. In order to test the possibility of the disease being due to a filter passer, nine volunteers offered themselves for an experiment, supervised by M. J. Rosenau. The washings of the nose and throats of two patients suffering from typical influenza with pneumonia were filtered through a Mandler diatomaceous earth filter, and 0.5 c.cm. of the filtrate was introduced into the anterior nares of the volunteers. In no case did any symptoms supervene. It was, therefore, concluded that the disease was not produced by a filter passer.

[1] *Journal of the American Medical Association*, September 28, 1918.

THE TOXICITY OF CHLORINE COMPOUNDS.

During the past two years many military surgeons have recorded satisfactory antiseptic action from the local application of solutions of sodium hypochlorite and of pastes and oily solutions of chloramine-T (the sodium salt of toluene sodium *p*-sulphochloramide). These chlorine compounds have been supplied largely to open wounds and wound pockets. The beneficial results have suggested to many observers the application of the solutions and pastes to other parts of the body, including the closed serous cavities. It will be remembered that chloramine-T is about twice as active in a concentration of 1 in 1,000 as Dakin's hypochlorite solution, but that dilutions weaker than this have too little germicidal action to be of practical value. On the other hand, solutions of greater concentration produce visible injury to granulation tissue. Dr. Ernest G. Grey, working in the Hunterian Laboratory of the Johns Hopkins University, has made a study of the toxicity of these bodies and supports the disappointment expressed concerning their antiseptic action.[1] He found that neutral solutions of sodium hypochlorite and solutions of dichloramine-T in chlorinated paraffin (Dakin's oil), when injected into the peritoneal cavity of dogs, led to an inflammatory reaction, the degree of which was proportional to the amount of antiseptic used. The quantity sufficient to kill a dog of approximately 10 kilograms appears to be about 20 c.cm. of a 1% solution of dichloramine-T, and a somewhat larger amount of hypochlorite solution. A small dose of Dakin's oil (16 c.cm.) introduced into the pleural cavity led to rapid death in a dog weighing about 20 kilograms. The chlorine antiseptics are tolerated in the gall-bladder, although chloramine-T induces a thickening and shrinkage of the cystic wall. The action is therefore one of a powerful irritant. It has recently been recorded by Dr. Waters in this journal that chloramine-T in a solution of 2% has proved efficacious in cases of pulmonary tuberculosis. The dose of 0.3 gramme is given by the mouth. He now informs us that, owing to the difficulty in obtaining this drug, he employs intravenous injections, using 1 to 2 c.cm. of a 7.5% solution for the purpose. An antiseptic action cannot be obtained in solutions weaker than 0.4%, as has been shown by Vincent. The concentration of chloramine-T in the blood after an injection of the dose mentioned above is obviously far too small to have any antiseptic action. On the other hand, the experiments referred to above would indicate that there is a serious risk in the introduction of chloramine-T in solution in a concentration of 1% into a closed cavity. Whether the irritant action would be marked when a 7.5% solution is introduced into the blood stream needs further experiments to demonstrate.

[1] *Bulletin of the Johns Hopkins Hospital*, October, 1918.

Dr. Burton Bradley has resigned his position as Microbiologist, Analyst and Director of the Laboratory of Microbiology and Pathology of Queensland.

Abstracts from Current Medical Literature.

ORTHOPÆDIC SURGERY.

(193) The Moral Treatment of the Wounded Man.

After commenting on the scope of military orthopædic work, Irving H. Cameron (*Canad. Med. Association Journ.*, August, 1918) deals with the moral treatment of the returned soldier. He finds the number of men who are anxious to return to the fighting-line to assist their comrades or who wish for a speedy recovery, or even to do a day's work to render themselves independent of the State, is small. Sickly sentimentality is the cause of this decadence and vanishing virility. The men go out to war brave, to return wounded, broken in spirit and hypersensitive to the suggestions of the false. They are surrounded by too sympathetic *padres*, matrons, nursing sisters and V.A.D.'s who anticipate every want and never omit the accursed weed. In addition, there are entertainments, editorial laudations, absurd and extravagant speeches in Parliament and organizations for patronizing the soldier until he does not know himself. The author, quoting from Plautus, says: "To a modest man it is an honour sufficient to have remembered his duty." The remedy is cut out Venus and Bacchus, adulation, flattery and undue praise. Work and play, pleasure and exercise should be combined. Industry, thrift and clean thinking should replace indulgence and sentimental molly-coddling. Inane and silly moving pictures and trashy plays should be replaced by films of natural history and illustrated lectures. Treat the men as younger brothers, he adds, reproving them with sympathy and understanding and lead them to greater "self-reverence, self-knowledge, self-control."

(194) Bunion, Its Causes and Cure.

The presence of enlarged sesamoid bones was noticed by H. A. Robinson (*Surg., Gynec. and Obstet.*, September, 1918) in two cases of foot injury, in both of which bunion was present. Later he dissected feet and found the bunion was easily reduced by removing the sesamoids. His conclusion was that a bunion is really a dislocation of the metatarsal bone of the great toe. Heredity is a factor in causation, but boots are not. The mechanism of causation is as follows: The two sesamoid bones grow downwards and laterally towards the heads of the second metatarsal bone, and are prevented from travelling in a plantar direction by the strong fascia. Each step forces them upwards and pushes the first metatarsal head upwards and medially. The proximal phalanx is not subject to pressure, and retains its position. When both sesamoid bones grow directly downwards the head of the metatarsal bone is dislocated upwards, producing a second variety of bunion. The treatment is to remove the offending bones and at the same time to remove any sharp prominences on the medial side of the head. Radiograms are reproduced showing the reduction of the deformity after this procedure.

(195) Problems of Reconstruction of the Hand.

Reconstruction of the hand involving the work of muscle and tendon is discussed by Arthur Steindler (*Surg., Gynec. and Obstet.*, September, 1918). The work of any muscle may be divided into two functions, namely, that of stabilizing a joint and that of moving the joint surfaces against each other. The importance of dorsiflexion of the wrist is well known, and the author finds, in his method of calculating muscular power, numerical predominance in the proportion of two to one of the dorsiflexors over the flexors of the wrist. The flexors of the finger, on the other hand, greatly predominate over the extensors. The greater power of flexion of the fingers in dorsiflexion of the wrist is explained by the fact that contraction takes place at the point of greatest extension and tension, whereas in flexion of the wrist part of the contraction of the flexor muscles of the fingers is used up to accommodate the muscle to the shortened distance between its attachments. In Volkmann's contracture the flexion of the wrist occurs first, extension of the metacarpophalangeal joints follows, because of the greater advantage given to the extensors of the fingers. Treatment is directed to overcome this by lengthening the flexors of the wrist. Wrist-drop, due to spastic or flaccid paralysis, is treated by fixing the wrist in hyper-extension, either by tendon fixation or arthrodesis. In reconstructing thumb movements the author advises the transplantation of part of the *extensor indicis* into the *extensor pollicis longus* in cases in which the flexion of the hand is marred by the thumb being thrown under the fingers. In the absence of opposition of the thumb the long flexor tendon is split and the radial half is inserted into the radial side of the base of the proximal phalanx of the thumb. Fixation in a splint, massage and re-education complete the treatment.

(196) Loose Bodies in the Elbow Joint.

The experience of the Mayo Clinic is given by M. S. Henderson (*Journ. Amer. Med. Association*, August 10, 1918) on loose bodies found in the elbow joint. The writer deals with bodies which are not the mechanical result of trauma, such as the fragments of joint surfaces in fractures. There were 12 patients examined with symptoms of loose bodies; all were males, and nine underwent operation. In each joint opened bodies were found, the number varying from one in three instances to sixty-five in one. No common cause could be found. The first symptom appeared in some of the patients after unusual exertion, but the writer does not think this necessarily indicates a traumatic origin. In three joints arthritis was found, but whether primary or secondary could not be determined. In one case the synovial membrane was distended and pedunculated with fibrous or cartilaginous pedicles. The loose bodies were examined and found to be composed of cartilage and bone without any regular formation. The symptoms presented varied from limitation of movement to definite locking of the joint, accompanied by pain. The treatment is surgical. An incision is made to the medial side of the biceps tendon, with ligature of the median basilic veins, if necessary. The muscles are separated to reach the capsule, and the joint is opened. The elbow is then flexed to 45° and a curved forceps introduced, to force the bodies out. If the bodies to be removed are on the radial side, the incision should be made on the outer side of the biceps, but if in the olecranon through the tendon of the triceps.

(197) Tendon Operations About the Ankle for Deformity After Infantile Paralysis.

S. Kleinberg and Isadore Zadek (*Amer. Journ. Orthopedic. Surgery*, July, 1918) have reviewed the results of operations which were performed at the New York Hospital for Ruptured and Crippled between the years 1912 and 1916. They were able to examine about one-third of the patients who had been treated, and, after rejecting a number for various reasons, had thirty-five cases from which to draw conclusions. In the greater number of these tendon transplantation was done in connexion with some other procedure, which appeared in some cases to be the chief cause of improvement. In the valgus and equino-valgus deformities the transplantation of the *extensor hallucis* alone had little effect in producing dorsiflexion or adduction. In four cases which were classified as excellent, arthrodesis of the talo-navicular joint had been performed in three. On the other hand, four cases showed hammertoe or *hallux valgus* after interference with the *extensor hallucis*. In the varus and equino-varus deformities the transplantation of the *tibialis anterior* to the outer side of the foot gave only one negative result in nine operations. From the results of subcutaneous tenotomy of the *tendo calcaneus* the authors suggest that, in such an operation, the foot should not be put up beyond a right angle. The patients who were under review were treated by different surgeons, but the technique was practically identical. The transplantations were fixed to bone and the after-treatment prolonged for months. Some cases showed dimpling of the skin from insecure fixation, and a notable observation was the frequency with which apparently paralysed muscles recovered power when the foot was maintained in a correct position.

(198) The Surgery of Nerve Injury.

Hadley Williams (*Canad. Med. Association Journ.*, August, 1918) thinks there is no way to determine before operation, whether a nerve is bruised or divided. In some of his cases in which

the nerve was not divided there was one constant symptom of pain. It is better not to wait for recovery, but to investigate surgically before valuable time is lost. Satisfactory results only follow approximation of the divided nerves. For this reason, when large gaps exist in a nerve like the radial, the removal of a segment of bone is preferred to methods which do not allow direct approximation.

MORPHOLOGY.

(199) The Histology of Lymph, with Special Reference to Platelets.

After discussing the recent work done on the histology of lymph and criticizing the various techniques followed, H. E. Jordon gives an account of his own results (*Anatomical Record*, Vol. 15, No. 1, August 20, 1918). The lymph was obtained from the thoracic ducts of dogs in which death had been brought about almost instantaneously, so as to avoid any reflex flow from the great veins into the thoracic duct during the death struggle. He finds that red blood corpuscles in small numbers are normal constituents of lymph. They are probably derived from red marrow drained by perivascular lymph terminal vessels. Small lymphocytes predominate, forming at least 90% of the entire cell content. Large lymphocytes are fairly numerous, as are large mononuclear leucocytes. Occasional neutrophile and eosinophile cells occur, probably of marrow and tissue-space origin. Definite platelets could not be found, although lymph contain a small amount of prothrombin and thromboplastin, which must be contributed by disintegration of platelets. It is suggested that, as they are notoriously unstable structures, they break down during their slow passage through the lymphatics to the thoracic duct, and consequently do not appear as structural elements in the thoracic duct lymph.

(202) Studies on the Sympathetic Nervous System.

In the *Journal of Comparative Neurology* (Vol. 29, No, 4, August 15, 1918) S. W. Ranson and P. R. Billingsley contribute a series of six papers dealing with their researches into the structure and function of the sympathetic nervous system and Sydney E. Johnson also makes a contribution, in which he shows there are no commissural neurones in the ganglia of the sympathetic trunk of the frog. The work has been carried out most exhaustively as to the details of structure, and should thus serve as a very necessary foundation for any future attempt to map functional pathways of the sympathetic nervous system. Many of the important functional paths in the autonomic system are given, not as an ultimate statement of fact, but as an illustration of the kind of information which it is desired to perfect. It is to be noted that organs influenced by the sympathetic system receive a double autonomic innervation, and that the impulses transmitted along the cranio-sacral pathways are usually antagonistic to those transmitted along the thoracico-lumbar paths.

(201) Giant Cells of Hæmopoietic and Osteolytic Foci.

H. E. Jordan (*Amer. Journ. Anatomy*, July, 1918) offers a contribution to the problems concerning the giant cells found in the yolk-sac and in bone marrow. It is shown that multi-nucleated giant-cells arise in the yolk-sac during the height of its hæmogenic activity from hæmoblasts by a process of cell growth and nuclear fission. This giant cell is therefore essentially a multiple hæmoblast. The bone marrow of young bones contains two distinct types of giant cells: (1) hæmogenic, either mono-, polymorpho-, or multi-nucleated, and (2) the osteolytic, which are always multi-nucleated. These latter are true osteoclasts, and resorb bone, while the former are in essence potential multiple hæmoblasts. The osteoclast arises chiefly from the marrow reticulum by a fusion process, and smaller osteoclasts may fuse, to form larger syncytia. These cells finally degenerate and disintegrate, there being no evidence of any retransformation into marrow reticulum. Both osteoclasts and multi-nucleated hæmogenic giant cells are end products of differentiation, and are not convertible one into the other. Osteoclasts may arise to some extent also from fusing osteoblasts, but only during the earlier stages of osteoblastic differentiation, for there is then but little difference between the fundamental mesenchyma and its osteoblastic and osteoclastic derivatives and environmental circumstances may alter the potentiality of a group of young osteoblasts and change it into an osteoclast. The full complement of functions of the hæmogenic giant cells in normal hæmogenic marrow remains obscure, and in the absence of an intensive hæmopoietic stimulus they apparently disintegrate. Under certain conditions characterized by blood destruction and the consequent stimulus to intensive blood formation these hæmogenic giant cells retain the potentiality to function as a multiple hæmoblast. There is no direct genetic relationship between the potentially hæmogenic giant cells and the osteolytic giant cells or osteoclasts. The hæmogenic multi-nucleate cells of the yolk sac and the red bone marrow are homologous elements and are related to hæmopoietic function. The yolk sac contains no homologue of the osteoclast of developing bone.

(202) The Behaviour of the Phagocytic Cells of the Peritoneal Fluid Toward Particulate Matter.

W. H. F. Addison and J. Monroe Thorington (*Anatomical Record*, July 20, 1918) discuss the results of their experiments on the phagocytic response of the cells of normal peritoneal fluid of the albino rat. The most prominent cell types to be found are: (1) coarsely granular basophiles, (2) coarsely granular eosinophiles, and (3) non-granular mononuclear cells. Ordinary polymorphonuclears are generally absent in normal peritoneal fluid, but quickly appear as a result of injection of various substances. The amount of peritoneal fluid is normally very small, but with a fine cannula or capillary tube a few drops may be obtained. A graded series of reactions were noted, depending chiefly on the size of the particles of the substances introduced, which were as follows, in order of particulate size: (*a*) carbon particles in suspension, (*b*) filtered lithium carmine, (*c*) boiled trypan blue, (*d*) fresh trypan blue and other colloids. In the case of the first two substances, both macrophages and polymorphs took an active part in phagocytosis, the reaction to carbon suspension being well advanced in four to six hours and to carmine in from eight to twelve hours. As regards boiled trypan blue, it is not until twenty-four hours that macrophages show any definite reaction, while at no time do the polymorphs react. After the injection of colloids there is practically no visible reaction before 24 to 36 hours. Thus it is seen that the visible phagocytic reaction takes place most rapidly in the case of the largest particles, the rate decreasing as we go down the series, until, in the case of the colloids, the size of the molecular aggregates is at the lower limit of size necessary to stimulate the macrophages to phagocytosis. The cœlomic macrophages are probably to be regarded as a more primitive type of cell than the polymorphs of the blood, and exhibit a wider range of phagocytic activity, ingesting particles both larger and smaller than those taken up by the polymorphs, and occasionally even devouring the polymorphs. The size of the molecular aggregate is an important factor in determining not only the rapidity and degree of phagocytic response to inert particulate matter within the peritoneal cavity, but also determines in large part the type of the phagocyte predominating in the reaction.

(203) Growth of Blood Vessels in Frog Larvæ.

Eliot R. Clark (*Amer. Journ. Anatomy*, January 15, 1918) states the results obtained from a study of the growth of blood vessels in the transparent fin expansion of the tails of frog larvæ which were anæsthetized with chloretone and thus kept under observation for some weeks. Notes and drawings were made from the time of the first appearance of a few capillary loops until a complicated system of arteries, capillaries and veins was established. In general, the endothelium of the blood vessels has an inherent faculty for developing a primitive system of vessels probably as a result of hereditary factors influencing the vital cell activities. But this stage ends relatively early, and further differentiation and growth becomes dependent on mechanical factors concerned in the pull or push of outside tissues, as well as with the blood pressure and blood circulation and with the interchange of substances through the vessel wall. It is chiefly these latter factors that determine the complex arrangement of the fully developed vascular system.

British Medical Association News.

SCIENTIFIC.

A meeting of the New South Wales Branch was held at the Medical School, University of Sydney, on November 8, 1918, Dr. A. A. Palmer, the President, in the chair.

Professor J. T. Wilson gave a highly interesting and instructive demonstration of anatomical specimens. A number of dissections were exhibited and the main features of each indicated. In the next place Professor Wilson gave an object lesson on the epidiascope. The demonstration was greatly appreciated.

Professor D. A. Welsh dealt with the types of changes met with in the heart. His demonstration took the form of a continuation of a demonstration which he had given on December 14, 1917, on diseases of arteries (see *The Medical Journal of Australia*, January 19, 1918, page 55). He said that it was not easy to demonstrate cardiac pathology from museum specimens without clinical subjects. From the naked eye appearances it was possible to recognize the changes in the heart consequential on changes in the arteries. In the first place there were the arterio-sclerotic changes. This was a condition which affected the smaller arteries. The vessels offered greater resistance, and there was, therefore, a greater strain on the driving force and a greater difficulty in the pumping of the blood through the narrowed channels. This led to a pure hypertrophy of the left ventricle. Professor Welsh showed a heart in transverse section embodying this change to an extreme degree. The right ventricle was practically of natural size, but when compared with the left ventricle, it appeared thin and small. In the later stages degenerative changes set in the heart muscle. There were arterio-sclerotic changes in the arteries supplying the cardiac wall. The heart was called upon to do more work, and was less efficient to do it. This produced a vicious circle. The left ventricle consequently dilated, as well as hypertrophied.

The second type of change was produced by atheroma. This affection was met with in the medium and larger arteries. In the aorta it gave rise to aneurysm, and in the brain to softening. In the heart it led to a very interesting series of changes. Atheroma of the coronary arteries led to a constriction of the vessels and a limitation of the blood supply. This produced a progressive starvation of the heart muscle. The next step was a dilatation of the left ventricle. The secondary changes which followed starvation were that the higher tissues died and the lower tissues increased in amount. The muscular tissue underwent degenerative changes, while the fibrous tissue became overgrown. The result was what was known as the fibroid heart. Local aneurysms appeared at situations where the heart wall gave way. In these hearts the coronary arteries were always atheromatous. Professor Welsh pointed out that atheroma often selected definite groups of arteries, such as the arteries of the brain and those of the heart. The slow progressive obliteration of the lumen ultimately led to the formation of a clot within the artery. The coronary arteries were largely terminal arteries. Consequently, when the part of the heart supplied by the particular branch of the coronary artery was blocked by a thrombus, an infarct or dead area resulted. He demonstrated a specimen in which were seen the early starvation fibrosis, complete blocking by a thrombus, and softening of the cardiac muscle, of myo-malacia, terminating in rupture of the right ventricular wall. At times the patient survived the effect of the infarct and there arose in the affected area a complete envelope of fibrous tissue. Aneurysm of the heart was liable to form in this connexion. In many specimens the naked eye appearance did not reveal the amount of damage inflicted on the cardiac wall.

The third group of changes with which Professor Welsh dealt were those met with when the heart was primarily inflamed. The portion of the heart affected was either the pericardium or the endocardium. Endocardial lesions acting during intra-uterine life attacked the right side of the heart, while those acting after birth attacked the left side. Changes affecting the heart before birth led to a stenosis of the pulmonary orifice, while in later life the mitral or aortic valves were affected. In simple endocarditis the lesion was probably due to a streptococcus of low-grade virulence. Usually there was a row of thrombi or vegetations along the edge of the valve cusp. The mildest forms of organisms affected only the free edges of the valves; when the virulence was raised, more of the endocardial membrane became affected. The thrombi then formed more rapidly; there was a destructive process and loss of valve tissue resulted. In the typical virulent form they had the clinical picture of an ulcerative or septic endocarditis. Pyæmia appeared as a result of the carrying away of vegetations, and even of portions of the affected valve segments. The septic process might spread a considerable distance from the valve, and the whole of the left auricle might be covered in this way by acute septic endocarditis. There was, he stated, no sharp line of demarcation between the simple and the septic forms. Some patients suffering from ulcerative or septic endocarditis survived, and the septic changes became chronic. The cardiac thrombus became covered over by a layer of septic white fibrin. The old pathologists termed this condition cardiac polypi. It was, in fact, a subacute endocarditis. He demonstrated specimens of this form, and then referred briefly to the detachment of the clot in an old healed endocarditis.

The second class of lesions under the heading of inflammatory were the pericardial changes. He demonstrated some examples of fibrinous pericarditis. In this connexion Professor Welsh pointed out that this form of pericarditis with effusion was not infrequently associated with tuberculous involvement.

He exhibited a specimen from a patient of Dr. Mills. He had had a very high temperature and was very ill when admitted to hospital. The pulse-rate was extremely rapid. There was a history of only three months' illness. The diagnosis was made of lesions in the aortic valve. The heart was enlarged. It was held to be probable that he was suffering from a malignant endocarditis. A few days later he was seized with acute abdominal symptoms, localized in the region of the bladder. Dr. Mills regarded this attack as probably due to an embolism formed in one of the branches of the mesenteric vessels. Contrary to expectation, the patient recovered. One or two days later he suddenly became speechless. He was able to say "yes" and "no." He was also paralysed. An embolism in the left middle cerebral artery was diagnosed. There was motor aphasia, but no sensory aphasia. He died three or four days later. In the heart was found a gross affection of the aortic valves. Attached to the cusps was a typical cardiac polypus. The diagnosis of the mesenteric embolism could not be confirmed, as the peritoneum was one dense mass of inflammatory adhesions. Before he died there was noted a well-marked neutrophile leucocytosis. The majority of the red cells were poor in hæmoglobin, but a few had an abnormally high hæmoglobin content. Megaloblasts and megalocytes were seen, as in the blood of a person suffering from pernicious anæmia. Professor Welsh suggested that in pernicious anæmia there was a myeloblastic reaction of the bone marrow, due to poisoning. In the case under discussion he thought that a poisoning had taken place and had affected a small patch of the bone marrow.

Professor Welsh demonstrated other specimens in support of his contention that the changes in simple and in infective or septic endocarditis were identical, varying only in the virulence of the infecting agent. Similarly he held that the infarcts in the heart represented exactly the same kind of process as those met with in the brain.

Dr. A. A. Palmer expressed his indebtedness to Professor Wilson and Professor Welsh for their instructive demonstrations. He referred to the changes in the myocardium resulting from atheroma of the coronary vessels. He saw many cases of sudden death, and frequently met with these changes. He had been struck by the very varying degree of disease of the heart seen in cases of sudden death. At times the arteries were almost solid. He had the impression that involvement of the left coronary artery was more common than that of the right. In other cases the blocking was very scattered. Apparently there was a considerable variation in the power of resistance to the poison. He also spoke of the fibroid changes seen in the moderator band, associated with changes in the intra-ventricular branch of the left coronary artery.

Dr. A. E. Mills doubted whether the great hypertrophy of

the ventricle was accounted for solely by starvation in the higher grades of atheroma. He was inclined to regard these cases as an atheroma grafted on an arterio-sclerosis. The term athero-sclerosis had been suggested for this condition, and he thought that it was a good term. Dr. Mills pointed out that he always asked his students at examinations to reconstruct the patient from the appearances of the heart. The marked hypertrophy enabled them to trace the initial lesion, and from the evidence they were required to form an idea of the condition of the kidneys and other organs. He referred to the question of the blood pressure in these cases, and pointed out that, while the systolic pressure in pure cases of atheroma was between 250 mm. and 300 mm. Hg., and the diastolic pressure was about 160 mm. Hg., in atheroma associated with arterio-sclerosis the systolic pressure fell to about 180 mm. and the diastolic to 140 mm.. In other words, the force under these conditions sufficient to give rise to the pulse wave was only capable of raising the pressure from 140 to 180 mm. of mercury.

Dr. J. Flynn questioned the correctness of the usual view that, while the pleura and the peritoneum were susceptible to tuberculosis, the pericardium was not so. The specimens demonstrated went to show that the pericardium did not enjoy any special protection. In the next place he dealt with the question of arterio-sclerosis from a biological point of view. There were few pathological conditions that ran more in families than arterio-sclerosis. The French adage that a man was as old as his arteries was eminently true. Changes appeared in the arteries in association with renal conditions at different ages in different individuals. It seemed to him that a predisposition existed in some persons from birth, leading to ultimate disease of the arteries. The same idea obviously led Osler to speak of the bad rubber used in the machine.

Professor J. T. Wilson thought that perhaps they might trace arterio-sclerosis a stage further backwards to a habitual family characteristic of an intestinal peculiarity. He pointed out that certain family habits inevitably resulted in toxic condition arising in later life. There would thus be three stages in arterio-sclerosis. The first was the inheritance of a family peculiarity; the second was the intoxication resulting from this peculiarity and the third the damage done to the arteries by the toxins.

A spirited argument ensued between Dr. Flynn and Professor Wilson. The former was not prepared to accept the hypothesis of an inherited habit leading to a pathological change, which in turn resulted in a secondary change, when there was evidence that the change resulted from noxes acting on a system congenitally predisposed. Professor Wilson saw no reason why the inheritance should not be traced to an intestinal condition. It was recognized that habitual intestinal conditions led to toxic absorption, and it was certain that they ran in families. He merely suggested this as a possibility.

Professor Welsh thought that both might be right.

Dr. W. F. Litchfield suggested that primary tubercular pericarditis was not so rare as was usually supposed. He gave the salient details of a case in a child under his care at the Children's Hospital. He asked Professor Welsh what evidence he had for assuming that rheumatism was due to a streptococcus of low-grade virulence. Poynton had demonstrated some years before that rheumatism was caused by the *diplococcus rheumaticus*. He, the speaker, held that there was a vast clinical difference between simple and malignant endocarditis. He referred to cases in which a person died of what appeared to be heart disease from the clinical signs and symptoms. There were no macroscopical changes to be found in the heart. It was not improbable that the death in these cases was a respiratory death, due to acidosis.

Dr. H. S. Stacy spoke of the condition known in the Army as "D.A.H." (disordered action of the heart). He suggested that very little accurate knowledge was possessed concerning these cases. After giving a few details concerning the clinical symptoms in these cases, Dr. Stacy spoke enthusiastically of the fact that Professor Arthur Keith, the Curator of the Museum of the Royal College of Surgeons of England, was housing war specimens from the Australian medical units. At a later date these specimens would be sent to Australia and would be distributed to the three medical schools attached to the Australian Universities.

In a brief reply, Professor Welsh said that it was generally admitted that rheumatism was due to a bacterium. The work of Poynton had thrown light on the bacteriology of this condition. It had been shown later that the *micrococcus rheumaticus* was identical to the *streptococcus fæcalis*. He thought that there was sufficient evidence to support the contention that the difference between the organisms of simple endocarditis and of septic endocarditis was merely one of virulence.

The Consultative Council appointed by the Council of the New South Wales Branch has asked the local associations of members to prepare to co-operate in the work of combating the influenza epidemic, if the necessity arises. The Consultative Council hopes that all members of the Branch who do not belong to a local association will, for this purpose, attach themselves to the nearest local association, so that their assistance also may be available at inoculation depôts and emergency hospitals, if necessary.

Dr. Vernon Leopold Bowman (M.B., 1919, Ch.B., 1910, Univ. Melb.), Hendy, New South Wales, has been nominated for membership of the New South Wales Branch.

THE FRIENDLY SOCIETIES IN VICTORIA.

It is with much gratification that we are in a position to announce that the differences which have existed between the friendly societies in Victoria and the medical profession, have been adjusted. The position adopted by the friendly societies rendered a settlement extremely difficult, but it is patent to all concerned that the interests of the members of the lodges have been amply safeguarded by the terms of agreement, and that a more satisfactory service will be given them in future.

It will be remembered that counsel representing the friendly societies and the Victorian Branch of the British Medical Association endeavoured for a considerable time to find an acceptable solution of the difficulties. About the middle of October the Premier, supported by Sir Alexander Peacock, approached the most influential members on each side and discussed with them the proposals advocated by counsel. As a result of these deliberations, two sets of conditions were framed, and the negotiations were conducted on the basis of these proposals. It soon became apparent that there were no insuperable obstacles, and the utmost care was taken to keep the discussion private, in order that progress might not be impaired just as a settlement was in sight. A short time ago the Victorian Branch authorized one of its members to make certain definite proposals, based on the suggestions of counsel. These proposals have been considered by the friendly societies. They were submitted to a meeting of the Friendly Societies' Association on November 30, 1918, and after free discussion and careful consideration the following terms were agreed to. It was resolved that the Disputes Committee should be empowered to take the necessary steps to give effect to the determination of the meeting, and that the terms of settlement of the dispute should apply to all registered friendly societies in Victoria.

The terms agreed to are as follows:—

1. That no new medical institutes shall be established within the period of three years after the date of the agreement.
2. That no additions to the staff of any medical institute existing at the date of the agreement shall be made within the said period of three years.
3. That within the said period of three years a medical institute shall not appoint as a medical officer any medical practitioner unless such practitioner was at the date of the agreement a medical officer of a medical institute in the State of Victoria.
4. That all members of friendly societies shall pay to the lodges the rates and charges set out in the findings of the Royal Commission appointed in April, 1918.
5. That in the dispensing of medicines at dispensaries under the control of friendly societies, no discrimination shall be made between those members of friendly soci-

eties who are and those who are not medical institute members.

6. That save as provided in recommendation 7, members of friendly societies shall be free to determine whether their names shall be included in the list of a medical officer of a medical institute or in that of any other medical officer.

7. At the date of the agreement, any medical practitioners who, by reason of the said disputes, have resigned their offices as medical officers, shall be reappointed, and the names of all members of friendly societies (other than medical institute members), which on November 1, 1917, were on the list of any such medical officer shall, on such reappointment, be again placed on the list of that medical practitioner, and remain thereon for a period of not less than three months.

8. That the practice of direct contracts with medical practitioners for medical attendance instituted by reason of the said disputes shall cease on the termination of any contracts in force at the date of the agreement.

9. That a joint committee representing the friendly societies and the British Medical Association be appointed for the purpose of carrying the terms of the agreement into effect.

10. That the necessary steps be taken to have an agreement prepared embodying these recommendations.

It will be recognized that under the terms of agreement some of the recently formed medical institutes may suffer financial loss. It appears that the Premier, anticipating this difficulty, caused a memorandum to be drawn up, in order that the friendly societies should not be embarrassed in their desire to accept the terms. The memorandum is reproduced below. It has been announced that the estimated cost to the State in respect to compensation may amount to £5,000.

1. That the terms of the agreement arrived at be approved by Government.

2. No institute doctor's contract to terminate without consultation with and approval of Government, and that conditions of termination and compensation, if any, shall be subject to the approval of Government.

3. If contracts are determined under provisions of memorandum No. 2, and compensation is to be paid to a doctor, the Government will pay the same.

4. All accounts to be available for Government inspection.

5. The agreement only to relate to institutes in operation at the date hereof and established since November, 1917; it also relates, in case of institutes established before November, 1917, where the staff has been increased, to all the increased staff thereof.

6. Where it is shown to the satisfaction of Government that medical institutes have sustained financial loss owing to the acceptance of the agreement, Government will favourably consider an application for reimbursement of such losses as Government may think fit.

7. The benefits of this agreement will extend to the societies which signify acceptance of the terms of settlement by December 14, 1918.

8. These terms only operate for three years from the date of this agreement.

Naval and Military.

CASUALTIES.

Three casualty lists, the 447th, 448th and 449th, have been published since we went to press last week. These lists contain close on 4,000 names. The number of officers and men killed in action, died of wounds or of other causes is approximately 25% of the total number. We are pleased to note that no medical officers of the Australian Army Medical Corps are named among the dead or wounded. Four of the medical officers are reported to be ill. They are Major Robert Maxwell McMaster, D.S.O., Major Herbert Henry Woollard, Captain Stewart Osburn Cowen and Captain Michael Brendan O'Sullivan. In a recently published list the name of Captain Alfred Ernest Dagnall Clark is mentioned among those ill.

We learn with regret that the death from influenza of Captain Charles Roy Lister is reported from England.

HONOURS.

The following notices concerning awards for gallantry and devotion to duty in the field have been reproduced from the *London Gazette* in the *Commonwealth of Australia Gazette*, No. 185, of November 27, 1918:—

Distinguished Service Order.

Major Archibald John Collins, M.C., Army Medical Corps. For conspicuous gallantry and devotion to duty when in charge of the evacuation of wounded during intense fighting. Although the A.D.S. in which he was located was subjected to heavy artillery fire, by his splendid energy, coolness and courage he was enabled to evacuate safely several hundred casualties. His magnificent example inspired all who came in contact with him, and stimulated junior officers and exhausted stretcher-bearers to further efforts.

Military Cross.

Captain Kenneth Arthur McLean, Army Medical Corps. For conspicuous gallantry and devotion to duty during a heavy enemy attack. Under heavy fire he personally conducted bearer squads, organized the forward work of evacuation and exerted himself to the utmost in saving wounded. His fine example served to keep the men under him working at high pressure and insured the complete evacuation of the positions.

Captain Charles Eric Watson, Army Medical Corps. For conspicuous gallantry and devotion to duty. Under very heavy artillery fire he continued to dress the wounded for 2½ hours. Though many of the bearers were killed and wounded, he stayed with the stretcher cases, and it was owing to his fine courage and energy that many of the wounded were saved.

APPOINTMENTS.

Surgeon-General R. H. J. Fetherston has resigned his office of Director-General Medical Services in Australia. Surgeon-General C. Cuscaden, the Deputy Director-General, will succeed him.

The following appointments, etc., have been announced in the *Commonwealth of Australia Gazette*, No. 186, of November 28, 1918:—

Australian Imperial Force.

Third Military District.

Major (temporary Lieutenant-Colonel) J. K. Adey, O.B.E., Fifth Field Ambulance, to be Lieutenant-Colonel. 1st May, 1918, and to command Third Australian Casualty Clearing Station, *vice* Lieutenant-Colonel R. D. Campbell, D.S.O., invalided, 4th August, 1918.

Major E. W. Gutteridge, Second Field Ambulance, to be temporary Lieutenant-Colonel. Dated 24th July, 1918.

Fourth Military District.

Major H. C. Nott, Second Field Ambulance, is transferred to 1st Australian General Hospital, and to be temporary Lieutenant-Colonel. Dated 25th July, 1918.

The appointment of Honorary Captain J. K. Osborne, Australian Army Medical Corps Reserve, as Registrar of the No. 4 Australian General Hospital has been announced. This officer is granted the temporary rank of Major.

Vennard Francis O'Neill has been gazetted as Honorary Captain of the Australian Army Medical Corps Reserve, and Honorary Captain W. S. Brooks has been transferred from the Reserve to the Australian Army Medical Corps.

THE TREATMENT OF "NEURASTHENIA" IN SOLDIERS.

A conference was held on June 17, 1918, for the purpose of determining the methods of dealing with neurasthenic soldiers in the Commonwealth. The conference was presided over by Surgeon-General G. Cuscaden, Deputy Director-General Medical Services in Australia, and Colonel Eric Sinclair, Principal Medical Officer of the Second Military District, Colonel A. H. Sturdee, Principal Medical Officer of the Third Military District, Lieutenant-Colonel Embling, Lieutenant-Colonel W. B. Vance, Lieutenant-Colonel Ernest Jones, Lieutenant-Colonel R. R. Stawell, Lieutenant-Colonel A. V. M. Anderson, Major Catchlove, Major S. V. Sewell and Major C. Godfrey were present.

For the purpose of military administration it was determined to employ the term "neurasthenia" as including ordinary neurasthenia and hysteria as seen in civil practice, the conditions known as "shell shock," debility associated with well marked toxic or functional disorders of the nervous system, such as is observed in cases entered under the rubric of "disordered action of the heart," and thyro-toxic disturbances. The term was also to include the condition of debility or injury complicated by symptoms of mental disturbance bordering on certifiable insanity. Conditions usually regarded as certifiable insanity were not definitely included in the definition. The third group of cases included were inebriety, addiction to drug habit and epilepsy.

It was resolved that ordinary "boat leave" should be deferred in connexion with soldiers suffering from neurasthenia as defined above. The men should be admitted direct from the hospital ship or hospital transport to the military hospital, for the purpose of observation and treatment. The granting of "boat leave" should be determined by the Officer in Command of the hospital, on the recommendation of the Senior Medical Officer of the hospital.

The question of the period of retention in the Military Forces of some or all of these men was fully discussed. It was resolved that men suffering from shell shock and from true neurasthenia, those regarded as on the borderland of insanity and the curable inebriates on the recommendation of the Senior Medical Officer, with the approval of the Officer in Command of the hospital, should be retained under the control of the military authorities for such period of time as was considered necessary. It was further resolved that epileptic soldiers and the incurable inebriates should not be retained by the military authorities for the purpose of medical treatment, and that these patients might be referred to the Department of Repatriation.

The members of the conference held that neurasthenic soldiers, with debilitated hearts or thyro-toxic symptoms should be retained for treatment if they wish it, as at present, in the military hospitals after discharge from the Military Forces. They also decided that similar rules should apply to all soldiers suffering from pulmonary tuberculosis.

The members resolved that soldiers suffering from "neurasthenia" in the Third Military District, should be sent, as soon as possible, to special wards in the No. 16 Australian General Hospital at MacLeod, and that there should be a carefully arranged segregation, according to the various types and degrees of neurasthenia.

It was pointed out that the Officer in Command of a hospital had discretionary power to grant leave, and it was resolved that this officier should avail himself of this power in connexion with men suffering from neurasthenia, on the recommendation of the Senior Medical Officer of the hospital. The question of the adequate nursing of these patients was also considered. Colonel Sinclair recommended that specially chosen nurses trained in asylums were of great value in borderland mental cases, and for patients with severe prolonged shell shock. It was also pointed out that the nursing at Broughton Hall Military Hospital for Neurasthenic Cases (Second Military District), was carried out by asylum-trained female attendants.

The question of the advisability of employing hypnotic suggestion and other special means of treatment was not fully discussed, as it was felt that this was a matter that must be left to the medical officer in charge of the neurasthenic patient. On the other hand, it was unanimously recommended that employment and vocational training, as part of the treatment, should form an important part of the medical treatment of these soldiers. It was held that the range of employment was great, and that the forms of employment should be varied. Employment out of doors was of special value in neurasthenia.

No definite recommendation was made concerning the proposal that specialists should visit England and Canada for the purpose of studying the most recent work in connexion with the treatment of neurasthenic invalid soldiers. It was suggested that the President of the conference should communicate with Surgeon-General Fetherston on this matter. The opinion was expressed that the medical officers in the Third Military District would gain much valuable information by a visit to the Broughton Hall Institution in the Second Military District.

Obituary.

WILLIAM LENNOX CLELAND.

It is only on rare occasions that all classes and sections of the community and persons of all shades of political opinion do honour to the memory of a man who has been in a prominent position for a long series of years. A man who held the respect and affection of all his colleagues and of very many in other spheres of activity has completed his task on earth, and has performed the last of numerous public duties fearlessly and without favour, without ever having given rise to a discordant note or to an unkindly criticism. The news of the death of William Lennox Cleland has filled the hearts of many Australians with deep regret, and has recalled memories of the pleasantest kind.

William Lennox Cleland was born in Hong Kong in 1847. His father was a missioner in Hong Kong, but shortly after the birth of the son he returned to England. His mother's father was a medical practitioner of the name of Glen. He resided in Brompton, in the west end of London, and is said to have invented a pneumonia jacket. When William Lennox Cleland was five years of age the family travelled to South Australia, and they spent the following ten years in Adelaide. He appears to have received private education. In 1862 he was sent to Europe, and was placed in a school at Berne, in Switzerland. Ten years later he matriculated at Edinburgh, and in 1876 he obtained the degree of Bachelor of Medicine and Master of Surgery. In the same year he was appointed House Surgeon to Professor Annandale. A little later he sought and obtained resident positions at two asylums for the insane. He married in 1877 the daughter of J. H. Burton, Historiographer Royal for Scotland. In 1877 he returned to South Australia, and was later appointed to take charge of the asylum at Parkside. As Medical Superintendent of the asylum he found himself faced with a difficult task, which required tact, knowledge, administrative skill and initiative. It must be remembered that psychiatry forty years ago was a very different thing to psychiatry to-day. The institution at Parkside has long ceased to be satisfactory for purpose of enabling those in charge to carry out treatment of the insane. This is due, in part, to the increase in number of inmates, in part to the revolution in the conception of the manner in which a hospital for the insane should be constructed and arranged, and in part to the obstinacy on the part of those who were required to provide the architectural plans for additions and alterations to the building. Dr. M. Downey became assistant to the Medical Superintendent, and the two men worked harmoniously and faithfully for the best interests of those under their charge. In 1898 he was appointed Colonial Surgeon in succession to Dr. Paterson.

The South Australian Branch of the British Medical Association was founded in 1879, and William Lennox Cleland was selected by his colleagues to fill the position of Honorary Secretary from its inception. He held this office until 1888, and the excellence of his work may be judged from the full reports, to be found in the pages of the *Australasian Medical Gazette*, of the meetings held, and of the discussions among the members of whatever subjects were under consideration. In 1889 he was elected President of the Branch, the eleventh on the roll of honour. He gave an excellent and thoughtful address on Lunacy Legislation on relinquishing his office.

In March, 1887, he joined the teaching staff of the University of Adelaide, as lecturer on *materia medica* and therapeutics. While acting in this capacity, he established a modest museum of *materia medica*. His services to the students of the University continued in this direction until 1901, when he was appointed lecturer on forensic medicine and psychiatry. He retired from teaching in 1911, when a separate lecturer was appointed for each of these subjects.

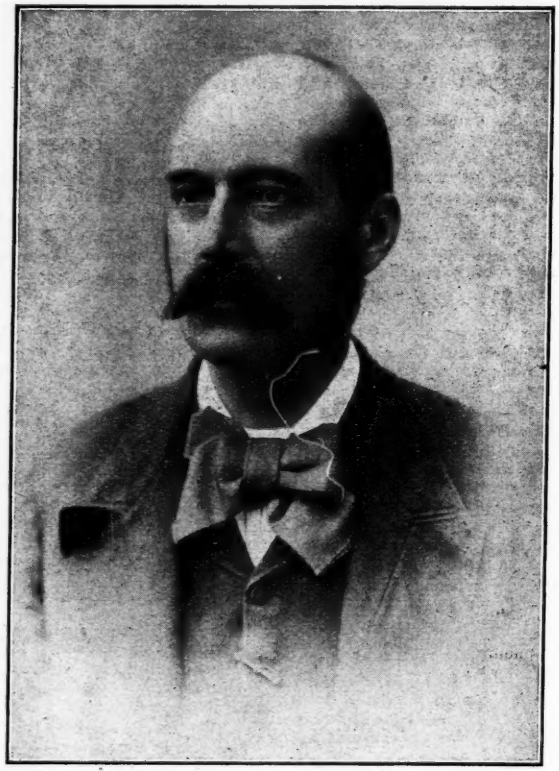
He was deeply interested in botany and, during the absence of Professor Tate, he delivered the lectures on this subject at the University.

In 1883 there was inaugurated at the Adelaide Children's Hospital "a series of twelve lectures for the benefit of nurses and such of the public as care to avail themselves of the opportunities thus offered to increase their store of medical and surgical knowledge, and by its suitable application be better prepared to deal with some of the emergencies

of everyday life." He was one of the honorary lecturers during the six consecutive years, from 1884 to 1889 inclusive.

In the year 1881 the South Australian Branch of the British Medical Association founded the South Australian Medical Benevolent Association, and William Lennox Cleland, Thomas Wilson Corbin and Charles Gosse were appointed a subcommittee, to draw up the necessary propositions respecting the starting of its fund. He was chosen its honorary secretary, a position he held for twenty-one years. After relinquishing this position he remained one of its trustees until 1917, when he gave place to Dr. Poulton.

It has been said of William Lennox Cleland that he was one of the kindest, most courtly and most charming men in Australia. He had a powerful personality, which influenced for good patients, colleagues and friends alike. He took his obligations seriously, and never shirked an unpleasant duty when he recognized that good would result. His professional attainments were of a first class order, and his work improved greatly by the fact that he enjoyed the possession of many interests outside medicine. As a botanist he attained some distinction. He made an extensive collection of plants at Port Augusta, among which was a new species of fern, described by von Müller and Tate as *Cheilanthes clelandi*. His friend, W. H. Tietkens, the explorer, named the Cleland Hills, in the centre of Australia, in recognition of his merit as a scientist.



In early life he took up the study of viticulture, under Dr. Kelly, of McLaren Vale. Although he gave up this study for medicine, he always kept a warm nook in his heart for his first love, and throughout his long life he was renowned for his excellent vineyard, olive and almond plantations. In his olive plantation, at Beaumont, are trees grown from the original truncheons imported from France in his youth. Stimulated by his uncle, the late Sir Samuel Davenport, he was also interested in sericulture. For many years his manganary at Parkside was visited by numerous people interested in silkworms. In spite of his endeavours to establish an industry, he did not succeed in pursuading others to take it up. This was probably due to the difficulty experienced in feeding the insects in their final stages.

At the outbreak of war, Dr. Downey, who had succeeded him as Medical Superintendent at Parkside, offered his services to his country, and William Lennox Cleland again undertook his old duties, to enable his former colleague to go overseas. This act was characteristic of the man. He leaves a widow and two sons, Dr. J. B. Cleland, Principal Microbiologist in the Department of Public Health of New South Wales, and Captain W. L. Cleland, now on active service with the Australian Imperial Force.

The President of the Royal Society of South Australia referred in the following terms to William Lennox Cleland at a meeting, held on November 21, 1918:—

> It is only fitting that we should make more than a passing reference to the death during the past month of Dr. W. L. Cleland, who for 37 years was a fellow of our Society. He was elected a member in 1879, just at the time the Adelaide Philosophical Association was converted into the Royal Society of South Australia. In 1882 he accepted the very onerous position of Honorary Secretary, which he retained for fifteen years. When we recall that during six of those years he was also Honorary Secretary to the South Australian Branch of the British Medical Association, and also to the Medical Benevolent Association of South Australia, one begins to realize what a mass of work he carried out in his quiet, unostentatious way. He only received his deserts when, on transferring the secretariat of the Royal Society to Mr. G. G. Mayo, he was granted the highest honour we could confer and was elected President, in which office he served for two years. He fulfilled it with the same assiduity and reliability as in his more humble post, for the minutes show that on only two occasions during the presidency was he absent from his official chair. When he retired from this he was, for two years in succession, chosen Vice-President, and after that a member of the Council, a sure sign of his reliability and worth.
>
> In 1885 he read a short paper, describing the geological features of the country about the head of Lake Gillies, where were some polished rock surfaces.
>
> In 1889 his Presidential Address dealt with the aboriginals of Australia, while that of 1900 was in extension of the same subject, on "Factors Producing Uniformity of Type Amongst Australian Aborigines," illustrated by photographs of the natives from various districts in our continent.
>
> When we review his association with our Society we cannot but pay a very cordial and eulogistic tribute to his memory, as one of our most helpful and efficient fellows.

THE CONFERENCE OF INFLUENZA.

The Commonwealth Government issued invitations to the several Ministers of Health, their expert medical officers, and the Presidents of the six Branches of the British Medical Association in Australia to attend a conference on November 27, 1918, for the purpose of discussing with the Federal authorities the means that should be adopted in the event of the influenza disease passing the quarantine barrier, and gaining a foothold in the Commonwealth. The attendance was large, and all those present exhibited an earnest desire to arrive at a decision that would meet all emergencies. The following resolutions were adopted after full discussion. We understand that there was practical unanimity among those present.

(1) That the disease be designated pneumonic influenza.

(2) That in view of the heavy mortality attendant on epidemics of pneumonic influenza in other countries, and the evidence that its spread coincides with the rate of human travel, this conference is of opinion that it is

desirable in the public interest to take any measures to check public travel that are at all likely to lessen the spread of the disease. It is recognized that such restriction does not afford an absolute safeguard, and is liable to prove ineffective at some stage in the course of the epidemic, but the conference, while recognizing this, nevertheless considers that the attempt to limit the original epidemic by this means should be made, and should be continued until proved unsuccessful, in order to give neighbouring States time to complete their organization, and also to afford some delay, which may result in some diminution of the virulence of the epidemic.

(3) That the Chief Health Officer should immediately notify to the Director of Quarantine the presence of any case of pneumonic influenza in his State, and that the Commonwealth should take steps to proclaim the State to be infected with pneumonic influenza.

(4) That, upon the proclamation of any State as infected, all traffic with that State be suspended until a case breaks out in a neighbouring State, when traffic may be resumed between the infected States. Provided that interstate sea traffic be permitted, subject to strict quarantine, no person being allowed to travel from the infected State, except on a permit issued by the Commonwealth Government. Provided, further, that these restrictions shall not apply to interstate local traffic amongst residents within ten miles of the border of any State in an area which is clean, or to such further areas as may be exempted with the concurrence of the contiguous States and of the Commonwealth Government.

(5) That, upon the proclamation of any State as infected, the Commonwealth should take complete control of all interstate traffic, both by land and sea, and that the States should undertake to render to the Commonwealth every possible aid, and to co-operate in the effective carrying out of the regulations.

(6) That in the event of an outbreak of pneumonic influenza no restrictive measures need be applied to traffic as between State and State, in respect of goods and mails, provided that all care be exercised to prevent personal contact between persons handling the goods.

(7) That this conference is of opinion that, in order to deal with pneumonic influenza, there should be local district isolation and quarantine by each State; that if any State has not sufficient power to effect this, it should obtain such powers, and that the chief executive officer of the Health Department should keep the Chief Quarantine Officer of the State concerned advised of the progress of the epidemic and the action taken.

(8) That the repeal of the proclamation declaring any State to be infected with pneumonic influenza be left in the hands of the Commonwealth Government.

(9) That it be recommended that an advisory committee be appointed in each State, consisting of the chief health officers and a limited number of members of the British Medical Association.

(10) The conference recommends that immediate action be taken by the State for (*a*) the establishment of serum depôts, (*b*) the establishment of special hospitals and the organization of ambulance transport, (*c*) the organization of nursing and medical assistance, (*d*) the issue of advice to local authorities through the press and by circular, (*e*) arranging for the supply of respirators to the public.

(11) The conference recommends that in the event of an outbreak of pneumonic influenza in any State, it is considered advisable to close all places of public resort, such as theatres, music halls, picture shows, race meetings, churches, schools; to prohibit all public meetings, and to take action for the regulation of all out-patients' departments of general hospitals.

(12) The conference recommends the Commonwealth Government to request the Minister of Defence to immediately disband all military camps until all immediate danger of an outbreak of pneumonic influenza has passed.

(13) The conference recommends that the Commonwealth Government should request the Minister of Defence to hold so much of the military medical and nursing organization available in such a way that they can be utilized in any part of the Commonwealth, in the event of an outbreak of the disease, for service under the direction of the State health authorities.

The Acting Minister for Customs announced on the following day that the Commonwealth Government had decided to adopt the resolutions in their entirety.

Correspondence.

TREATMENT OF RETURNED MEN.

Sir,—The publication two days after the declaration of the armistice of the appointment of a medical superintendent who had unbroken service at Sydney Hospital during four years of war, cannot fail to give an uneasy feeling to all those who expect a fair deal for the men who have been away.

In every Government department, in every municipal council, from the employment of a clerk to a labourer, returned soldiers get preference. One needs to come to the learned profession of medicine to find out that a man who went away is just a plain fool—the man who stayed behind gets first consideration.

Surely the appointment to Sydney Hospital should have been a temporary one till the war terminated, and the returned men then should have had preference. The obligation is plain to the men on its resident staff at the outbreak of war who gave up without a moment's hesitation their professional careers at their country's call, they should be given an opportunity of picking these up where they laid them down. Specially is this so when the nature of their military jobs gave them little clinical opportunity, though it perfected them as organizers. I can recall two men who so excelled in this respect that, besides rapid promotion, they earned the D.S.O., and I have no doubt there are others.

In addition, the graduates in 1914, 1915, and 1916 were definitely told that if they went away at once, hospital jobs would be found for them on their return, to enable them to get their clinical experience, and the interests of these men, whose claim to our gratitude and generosity is undoubted, will only be safe in the hands of a superintendent who appreciates exactly how they stand and the nature of their work on the other side.

But quite apart from the question of a fair deal to these men, the interests not only of the hospital, but of the future medical profession, demand that the chief control of such an important hospital as Sydney at this juncture should be in the hands of men whose character has been proved and ideals fixed in the crucible of active service. At the present time, when every eligible patriotic man should be on active service, the medical school has 630 students, largely eligible. Professors Welsh and Wilson openly characterize this as a scandal, and state that the bulk of these have entered medical courses not from love of the profession, but because in the event of conscription they would have been exempt. To make the best of this material and to give it proper professional ideals, the hospital responsible for training half of these students should be superintended by a man of proved courage, who has had character enough to put his country's interests before his own. The war has shown that there are enough unscrupulous men to take advantage of their colleagues' absence on active service. There is no need to put a premium on not having gone.

Yours, etc.,

"RETURNED MAN."

November 23, 1918.

TREATMENT BY UNQUALIFED PERSONS.

Sir,—One notices with satisfaction that the proposed *Venereal Diseases Act*,[1] prohibits treatment by chemists and other unqualified persons, and one wonders why the same rule should not be applied to the treatment of other diseases. During the epidemic of influenza, two or three months ago, I saw a good many elderly and old people, whose parlous state was due to the administration of unsuitable drugs prescribed

[1] The Bill referred to is that presented to the New South Wales Parliament. The prohibition as defined in Clause 3 (4) is limited to the treatment of syphilis.

by unqualified people or sold indiscriminately to anyone. It is to be hoped that if the influenza now quarantined should break bounds measures will be taken to see that its victims do not become also victims of the nostrum vendor and the unqualified prescriber.

Yours, etc.,

"OBSERVER."

Proceedings of the Australian Medical Boards.

VICTORIA.

The following have been registered under the provisions of Part I. of the *Medical Act, 1915*, as duly qualified medical practitioners:—

Crawcour, Sydney, "Esnet," Mathoura Road, Toorak, M.B. *et* Ch.B., Melb., 1918.

Haynes, Harold Cranwell Aloysius, Alfred Hospital, Melbourne, L.R.C.P. *et* S. Edin., L.R.F.P.S., Glas., 1916.

Mackay, Eric Reay, Bank of Victoria, Warrnambool, M.B. *et* Ch.B., Melb., 1915.

McIver, Gordon John Kennedy, "Gleniver," 54 Park Street, Brunswick, M.B. *et* Ch.B., Melb., 1916.

Morris, Andrew Bernard, 6 Power Street, Hawthorn, M.B. *et* Ch.B., Aberdeen, 1903.

Stephens, Westmore Frank, c/o. W. F. Dawson, Esq., "Woodford," Dandenong Road, East Malvern, M.B. *et* Ch.B., Melb., 1918.

Woods, Eric Arthur, Congregational Manse, Castlemaine, M.B. *et* Ch.B., Oxford, M.R.C.S., Eng., L.R.C.P., Lond., 1918.

Books Received.

WATTLE BABIES, by May Gibbs; 1918. Sydney: Angus & Robertson, Ltd.; Demy 8vo.; pp. 26, two coloured and 12 other pictures. Price, 1s. 6d.

THE CHARMS OF SYDNEY: A CHRISTMAS BOOKLET, by Sydney Ure Smith; 1918. Sydney: Angus & Robertson, Ltd.; Post 8vo., pp. 28, with coloured and other illustrations. Price, 1s. 6d.

THE CITY OF RIDDLE-ME-REE, by Zora Cross, illustrated by Olive Crane; 1918. Sydney: Angus & Robertson, Ltd.; Post 8vo., pp. 18. Price, 1s. 6d.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xv.

Red Cross Sanatorium, Wentworth Falls, N.S.W., Assistant Medical Superintendent.

Department of Defence, Small Arms Factory, Lithgow, N.S.W., Victoria Barracks, Melbourne, Chemists.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other contract practice. Australian Prudential Association Proprietary, Limited. National Provident Association. Mutual National Provident Club.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Rockhampton Associated Friendly Societies. Cloncurry Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments in South Australia. Contract Practice, Appointments at Renmark.
WESTERN AUSTRALIA. (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phœnix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
TASMANIA. (Hon. Sec., Macquarie Street, Hobart.)	Medical Officers in all State-aided Hospitals in Tasmania.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

Diary for the Month.

Dec. 10.—Tas. Branch, B.M.A., Council and Branch.
Dec. 10.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Dec. 11.—South Sydney Med. Assoc. (N.S.W.).
Dec. 12.—Vic. Branch, B.M.A., Council.
Dec. 13.—S. Aust. Branch, B.M.A., Council.
Dec. 13.—N.S.W. Branch, B.M.A.
Dec. 17.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Dec. 19.—City Medical Assoc. (Sydney, N.S.W.).
Dec. 20.—Q. Branch, B.M.A., Council.
Dec. 26.—S. Aust. Branch, B.M.A.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.